

Aus der Klinik und Poliklinik für Physikalische Medizin und Rehabilitation
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**Factors explaining limitations in activities and
restrictions in participation in rheumatoid arthritis**

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TABLE OF CONTENTS (INHALTSVERZEICHNIS)

1. GERMAN ABSTRACT (DEUTSCHE ZUSAMMENFASSUNG)	5
2. ABSTRACT	7
3. INTRODUCTION	9
4. METHODS	12
4.1. Objectives	12
4.2. Study Design	12
4.3. Patients	12
4.4. Data Collection	13
4.5. Measures.....	14
4.6. Statistical Analysis	18
5. RESULTS	20
5.1. Patients	20
5.2. Multivariate linear regression analysis	22
6. DISCUSSION	26
7. CONCLUSION	30
8. REFERENCES (LITERATURVERZEICHNIS)	31
9. ATTACHMENTS	37
9.1. Tables.....	37
9.2. Curriculum vitae (Lebenslauf).....	42
9.3. Data Set Rheumatoid Arthritis	45

1. GERMAN ABSTRACT (Deutsche Zusammenfassung)

Hintergrund

Rheumatoide Arthritis eine chronische systemisch-entzündliche Erkrankung, die Einschränkungen der körperlichen Funktionalität hervorruft. Das Identifizieren von Faktoren, die die Auswirkungen der Erkrankung beeinflussen, ist von großer Wichtigkeit für die Planung einer adäquaten Therapie. Das Identifizieren von Auswirkungen auf die Aktivitäts- und Partizipationsebene entsprechend der Internationalen Klassifikation für Funktionalität, Behinderung und Gesundheit (International Classification of Functioning, Disability and Health ICF) im alltäglichen Leben ist relevant für das Management der rehabilitativen Therapie.

Ziel

Die Ziele der Untersuchung waren zu zeigen, welche Faktoren in welchem Ausmaß zur Erklärung von Einschränkungen in Aktivitäten gemessen mit dem Health Assessment Questionnaire (HAQ) bei Rheumatoider Arthritis beitragen (Model I) und zu zeigen, welche Faktoren in welchem Ausmaß zur Erklärung von Einschränkungen bei der Partizipation im sozialen Leben gemessen mit dem SF-36 bei Rheumatoider Arthritis beitragen (Model II).

Design/Methode

Querschnittsstudie von einer Datensammlung betreffend den Gesundheitszustand von 239 ambulanten Patienten mit Rheumatoider Arthritis, die an der Klinik für Physikalische Medizin und Rehabilitation der Universität München und der Universität Zürich in konsekutiver Folge eingeschlossen wurden. Messinstrumente: arztzentrierte Krankheitsaktivität DAS-28, patientenzentrierte Krankheitsaktivität RADAI, Fragebogen zur Funktionellen Gesundheit HAQ, Gesundheitsfragebogen SF-36, Soziodemographie-Fragebogen, Komorbiditäts-Fragebogen SCQ, Muskelkraft MSI, Gelenkbeweglichkeit EPM-ROM, Greifkraft, Hand-Geschicklichkeits-Test SODA, Röntgen-Score Ratingen Score.

Analyse

Multivariate Regressionsanalysen mit Bildung von Erklärungsmodellen.

Ergebnisse

In Model I wurden als erklärende Variablen die Vitalität, die Krankheitsaktivität gemessen mit dem RADAI und DAS, der Schmerz, die Muskelkraft und die Gelenkbeweglichkeit eingeschlossen, die gesamte erklärte Varianz betrug 53%. In Model II wurden als erklärende Variablen die Vitalität, die Psychische Gesundheit, die Funktionale Gesundheit und das Alleine Leben eingeschlossen, die gesamte erklärte Varianz betrug 42,4%.

Schlussfolgerung

Einschränkungen von Aktivitäten bei rheumatoider Arthritis werden hauptsächlich erklärt durch den Faktor Vitalität und Faktoren der Krankheitsaktivität. Einschränkungen in der Partizipation am sozialen Leben bei rheumatoider Arthritis werden hauptsächlich erklärt durch die Faktoren Vitalität und psychische Verfassung.

2. ABSTRACT

Introduction

Rheumatoid Arthritis is a chronic, systemic, inflammatory disease causing disability. Identifying factors that influence the impact of the disease is important for planning adequate therapy. Knowing the effect on activities and on participation according to the International Classification of Functioning, Disability and Health (ICF) in daily living determines the rehabilitation therapy management.

Objectives

Objectives were to evaluate, which factors contribute how much to the explanation of activity limitations measured by the Health Assessment Questionnaire HAQ (model I) and which factors contribute how much to the explanation of participation restrictions measured by the Social Function Scale of SF-36 (model II) in RA according to the ICF.

Design and Patients

Cross-sectional data collection of variables concerning the health status of 239 consecutively included patients with RA at the outpatient departments of Physical Medicine and Rehabilitation of the University Hospital of Zurich, Switzerland, and of the University Hospital of Munich, Germany was conducted. Measures: Disease Activity Score (DAS-28), Rheumatoid Arthritis Disease Activity Index (RADAI), Health Assessment Questionnaire (HAQ), Short-form-36 (SF-36), Sociodemography Questionnaire, Comorbidity Questionnaire (SCQ), Muscle Strength Index (MSI), range of motion (EPM-ROM), grip strength, Sequential Occupational and Dexterity Assessment (SODA), radiologic score (Ratingen Score).

Analyses

Multivariate regression analyses were conducted building models of explanation.

Results

In Model I Vitality, RADAI, DAS, SODA PAIN Score, MSI and EPM-ROM were found to be explaining variables with a globally explained variance of 53%. In Model II these were Vitality, Mental Health, the HAQ and Living alone with a globally explained variance of 42.4%.

Conclusion

Activity limitations in RA were mainly explained by Vitality and disease activity factors. Restrictions in participation in RA were mainly explained by Vitality and Mental Health.

3. Introduction

Rheumatoid Arthritis (RA) is a chronic, systemic, inflammatory autoimmune disease of unknown aetiology with an incidence of 54 per 100 000 in women and 24.5 per 100 000 in men, as estimated in a British cohort of patients with early arthritis [Wiles 1999]. The prevalence of RA in Germany amounts to 1-2% [Fehr 1989] and worldwide to 0.5-1% [Kvien 2004].

The disease that primarily involves joints leads to impairments in body functions (such as pain, joint stiffness, loss of range of motion, loss of muscle strength) and structures (such as joint destruction), to limitations in several activities (such as walking, dressing, gripping objects) and further to restrictions in participation in social life as well as in maintaining professional status as described by the International Classification of Functioning, Disability and Health (ICF) Model (WHO 2001). The disability caused by RA results in a major economic loss also because it affects patients in their most productive years [Langenegger 2001, Kaarela 1995].

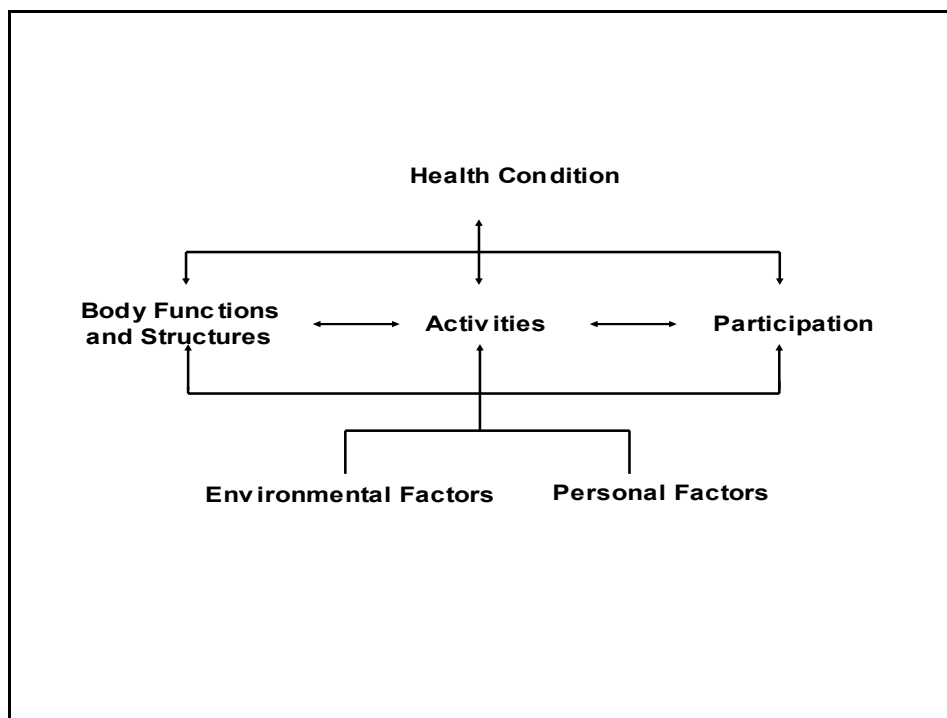
The current drug therapy (disease modifying antirheumatic drugs DMARDs, Corticosteroids, non-steroidal anti-inflammatory drugs NSAIDs and new biologic drugs) adequately assigned aims at reducing pain and disease activity and with it delaying the disease progress. But till now they are not able to avoid disease consequences of RA completely. Specific surgical therapy is directed to enhance joint mobility and function. However patients with RA must accept more or less major limitations in activities and restrictions in participation to this day.

Identifying variables that influence the impact of the disease is important for planning essential therapy of which rehabilitation aims at restoring impaired function, delaying progression of loss of function and regaining normal levels of activities and participation in daily living and social life. Knowing these variables determines the selection of quality and quantity of therapy and of adequate rehabilitation strategies for patients suffering from a RA.

The ICF is a common language and classification to describe functioning and its loss due to diseases [Stucki 2004a, Cieza 2005]. In the ICF functioning is seen in relation to health condition, as well as to personal and environmental

factors. Using the ICF as a reference framework allows us to see which components and domains are covered in a specific instrument and therefore what instrument to choose for a specific problem. It provides a useful reference to identify the concepts contained in outcome assessments used in clinical trials [Brockow 2004, Stucki 2004b].

Figure 1: ICF Model



It is a fact that multiple variables of disease status cause and explain activity limitations and participation restrictions in RA [Hazes 2003]. In cross sectional studies the association of activity limitations and variables that determine the impact in RA was already examined: Disease activity variables (like articular signs, stiffness, Disease Activity Score DAS), joint deformities, pain, joint destruction, disease duration, sex, age, depression and other psychological factors, were often found to be associated with disability [Guillemin 1992, Guillemin 1994, Guillemin 2000, Escalante 1999, Escalante 2005, Vlieland 1996, Van den Ende 1998, Holm 1998, Molenaar 2002, Hakkinen 2005]. Muscle strength was lately evaluated in only a few recent studies [Vlieland 1996, Hakkinen 2005, Stucki 1998a], alike range of motion [Vlieland 1996, Hakkinen 2005] was rarely evaluated in this context.

Recently regression analyses showing the amount of influence of variables on activity limitations in RA were conducted: Hand function in RA patients was found to be explained by pinch strength, stiffness of the hand and the presence of certain deformities [Vlieland 1996]. In other studies physical function (measured by the HAQ) was found to be explained by sex, age, disease activity, disease duration, depression and other psychological impairments, demographic variables, self efficacy and pain [Escalante 1999, Holm 1998, Molenaar 2002, Hakkinen 2005]. Further evaluated explaining variables in this context were pain, joint damage, grip strength, and range of motion [Hakkinen 2005].

Variables that influence restrictions in participation in RA are poorly examined till now. The Association of social function (measured by the SF-36 subscale) and physical function (measured by the HAQ) was found [Birrell 2000]. To our knowledge no regression analyses in this context were conducted.

Corresponding to the ICF there was declared in a cross-sectional study that in RA measures of impairments were associated with measures representing activity limitations, and measures of activity limitations were associated with measures representing participation restrictions [Fransen 2002].

There is evidence that multiple variables of different components according to the ICF affect activity limitations. There is little knowledge about variables influencing participation restrictions in RA. Moreover we do not know much about the influence of potential explaining variables beyond like psychosocial variables, global health representing variables, social variables (like working status, living situation) and variables of relevant rehabilitation therapy strategies. They are very rarely examined in multivariate analyses in RA.

In this Study data collection and regression analyses covering a comprehensive set of variables were conducted. In addition this data collection included some rarely considered aspects namely measures of rehabilitation therapy like muscle strength, joint mobility and hand dexterity.

The goal of this study was to explain activity limitations and participation restrictions in RA and to quantify the amount of influence of explaining variables.

4. Methods

4.1. Objectives

The objectives of this evaluation were to identify explaining factors in the following models:

In model I (Activity model) the aim was to discover which factors contribute how much to the explanation of activity limitations measured by physical function questionnaire (Health Assessment Questionnaire HAQ) as an indicator for most relevant concepts in RA.

In model II (Participation model) the aim was to discover which factors contribute how much to the explanation of participation restrictions measured by Social Function Scale of SF-36 which covers a typical field of participation in RA.

A subsample of data including the Ratingen Score (radiologic score for joint destruction) was available to analyse the explaining potency of the Ratingen Score.

Alternative models were conducted if variables included in the final models could be substituted by the next best correlated variable with a similar context.

4.2. Study Design

This study was conducted with a cross sectional data collection of patients with Rheumatoid Arthritis. The patients were recruited in two different study centres using a similar data collection procedure and using the same measures.

4.3. Patients

Inclusion Criteria

Patients were included if they fulfilled the ACR-Criteria (American College of Rheumatology 1996) for the diagnosis of RA and if they agreed to participate by written, informed consent. The disease duration and the age at disease onset were not restricted.

Exclusion criteria

Patients were excluded if they were younger than 18 years and if they were not able to read, understand and fill in German written questionnaires.

Recruitment

Patients were recruited at the outpatient department of Physical Medicine and Rehabilitation of the University Hospital of Zurich, Switzerland, and of the University Hospital of Munich, Germany, during January 1999 to July 2004. The physicians asked patients with the established diagnosis Rheumatoid Arthritis consecutively to take part in the study.

4.4. Data Collection

At the Assessment a trained physician completed the inclusion and exclusion criteria form and checked informed consent. The physician collected data for the Disease Activity Index (DAS) and the disease characteristics (family history, prognostic factors, health economic status, drug and surgical therapy). The included patients were instructed in completion of the self-administered questionnaires as there were the Rheumatoid Arthritis Disease Activity Index (RADAI), Health Assessment Questionnaire (HAQ), Short-Form of Medical Outcome Study Questionnaire (SF-36), Sociodemography Questionnaire and Comorbidity Questionnaire (SCQ).

All physicians participating in the study were trained to perform the necessary joint counts for the DAS and to handle the questionnaires. Well-trained therapists performed the tests for manual dexterity (Sequential Occupational Dexterity Assessment SODA), muscle strength (Muscle Strength Index MSI) and range of motion (EPM-ROM). Plain radiographs of hands and feet at the assessment date were taken and scored by a trained rater.

4.5. Measures

HAQ

The HAQ is a well validated, standardized and frequently used patient-centred instrument [Stucki 1995a]. It assesses the disease-specific physical disability of patients with rheumatic disease [Ramey 1992]. The HAQ has been translated and validated into numerous languages including the German language version [Brühlmann 1994]. It consists of 20 items covering 8 groups of functional limitations of the lower (arising, walking, activity; 6 items in total) and upper extremities (eating, reaching, gripping, dressing, hygiene; 14 items in total). Each item is scored 0-3 (0 = without difficulty, 3 = unable to do). The highest score within a component determines the component score, and the overall score is obtained by averaging the component scores. Therefore, scores range from 0-3 with higher scores indicating worse function.

DAS

The Disease Activity Score (DAS28) [van der Heijde 1992, Prevoo 1995, van Riel 1992, Stucki 1995b] is a standardized validated disease activity index. Physicians calculate the DAS28 using the number of swollen joints, the number of tender joints of 28 given joints, and the erythrocyte sedimentation rate (Westergren method). The DAS28 has a continuous score from 0-10 with higher scores indicating higher disease activity. A DAS28 ≤ 3.2 indicates low disease activity, $3.2 < \text{DAS28} \leq 5.1$ middle and $\text{DAS28} > 5.1$ high disease activity.

RADAI

The Rheumatoid Arthritis Disease Activity Index (RADAI) [Stucki 1995c, Mason 1992] is a well validated disease activity index based on a standardized assessment of the patient. The patient answers questions concerning the estimation of his disease activity, the symptoms pain, morning stiffness and local pain in different joints and joint groups. The RADAI is scaled from 0 - 10, whereby 0 represents no and 10 maximal disease activity. The RADAI as a patient-centred instrument complements the physician-assessed DAS28.

SF-36

The SF-36 [Ware 1992, Ware 1996] is a multi-purpose, short-form 36-item instrument derived from Medical Outcome Study (MOS) for the following eight health concepts (subscales) in global health: limitation in physical activities (Physical Function), usual role activities because of physical function (Physical Role), bodily pain (Body Pain), general health perception (General Health), vitality (Vitality), social activities (Social Function), usual role activities because of emotional problems (Emotional Role) and mental health including psychological distress and well-being (Mental Health). Scoring has been carried out according to published guidelines [Ware 1993]. The scores of the eight subscales range from 0 to 100. Higher scores denote less limitations or distress in the different dimensions. We used the validated German version [Bullinger 1995, Bullinger 1998].

Sociodemography

The Sociodemography Questionnaire is a measurement of socioeconomic data of the patient. The questionnaire contains the following categories: living situation, education and profession, life habits and sports activities.

SCQ

The Self-administered Comorbidity Questionnaire is a standardized patient-centred validated questionnaire for assessment of comorbidities, the treatment of the additional diseases and of their consequences of disabilities in the daily life [Sangha 2003]. The questionnaire assesses the following 14 diseases categories in a for the patient understandable verbalizations: hypertension, cardiac disease, vascular disease, psychological affection/depression, Diabetes mellitus, overweight/ hyperlipidemia, malignancy, alcoholic/drug excess, lung disease, kidney disease, liver disease, gastrointestinal disease, blood disorders, back pain. Each category can be scored up to 3 points (one point for the presence of the disease, the second for a drug treatment and the third for disability on the base of the affection). Thus the global score is up to 42 points.

SODA

The Sequential Occupational Dexterity Assessment is a validated instrument designed especially for RA patients that tests physical function of the upper extremity in form of bimanual dexterity in a test situation (capacity) [van Lankfeld 1996, van Lankfeld 1999]. The SODA includes 12 task items. Six tasks are unilateral and 6 tasks are bilateral. The bilateral have separate scores for left and right hand performance, resulting in a total of 18 items. The therapist rates the subject's performance and pain on the test on 18 scales ranging from 0 to 6. The range of the total SODA score is 0 to 108. A higher score indicates a higher dexterity.

EPM-ROM

The Range of Motion (ROM) is a standardised measure of the joint mobility. It is measured at different joints of the upper and lower extremity (shoulder, elbow, wrist, thumb, hip, knee and ankle) at both sides. The mean of all values is taken. EPM-ROM means Escola Paulista de Medicina Range of Motion according to the Initiators [Ferraz 1990, Vlieland 1993].

Grip strength

Grip strength is measured with a vigorimeter at both hands three times and then taken the mean respectively. Evaluation of the Martin vigorimeter to measure grip strength in healthy subjects and patients with RA was conducted by Jones et al [Jones 1991].

Muscle Strength Index

The Muscle Strength Index (MSI) is a validated measurement of the strength of the muscles of the upper and lower extremity [Stucki 1998, Stucki 1994]. The Muscle Strength Index is calculated as the mean score of standardised isometric extension and flexion strength of the knee and elbow joints.

Ratingen Score

The Ratingen Score [Rau 1995, Rau 1998, van der Heijde 1999] is a linear score for evaluation of the joint destruction of patients with RA assessing radiographs of hands and feet. It reflects the joint destruction but not the

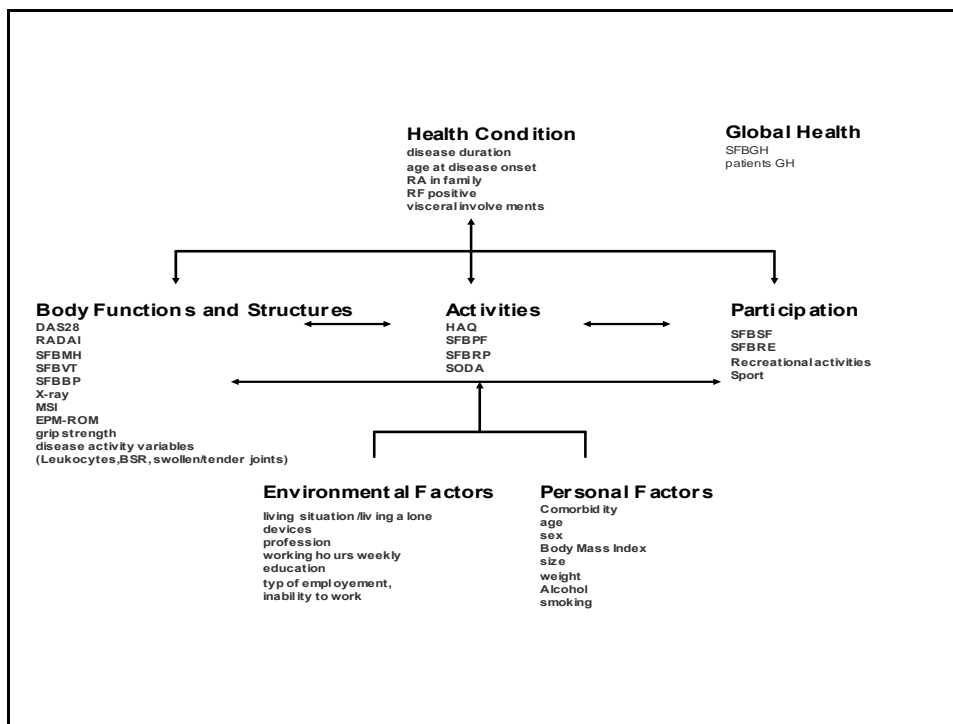
osteopenia or joint space narrowing. The amount of joint surface (wrist, metacarpophalangeal joints, metatarsalia I -V and interphalangeal joints at both sides) destroyed by erosions is assessed in percent.

Disease Characteristics

The disease characteristic questionnaire is a not yet standardized instrument for assessment of disease history data of RA patients that are relevant for characterisation of the disease duration, severity, prognostic factors and specialty care [Hochberg 1993, Kirwan 1993, Young 1997]. The questionnaire consists of 5 categories of questions: (a)family history, (b)prognostic factors, (c)health economic questions about the diagnosis and specialty care, (d)questions about the previous DMARD treatment corticosteroids and osteoporosis medication, (e)previous surgical treatments as a result of RA.

The assessments in this study were chosen to cover the domains as described in the ICF Model.

Figure 2: ICF Model of RA Disability



4.6. Statistical Analysis

Statistical analysis was conducted using SPSS, Version 12.00 (SPSS Inc.©). Descriptive statistics were done to characterize the study population. The two subgroups (Munich/Zurich) were compared using χ^2 - and Mann-Whitney-U-Test. For the multivariate regression analysis of the two models we applied a stringent variable selection procedure.

Selection of variables for multivariate regression analyses

After mapping all available variables to ICF components according to the ICF (see Attachments Table 5 and Figure 2) the first step consisted in building chunks (chunks = sets of variables that are logically related and of equal context within a chunk and that are candidate explaining variables) for each component, - these are *Body Functions and Structures*, *Activities*, *Participation*, *Environmental Factors*, *Personal Factors* and *Health Condition* - as well as building subchunks within the component *Body Functions and Structures*, namely for disease activity, pain, joint structure, muscle strength/joint mobility. For the model I the components *Body Functions and Structures*, *Personal Factors*, *Environmental Factors*, *Health Condition* were considered as relevant chunks regarding the objectives of the study. For the model II these were the components *Body Functions and Structures*, *Activities*, *Personal Factors*, *Environmental Factors*, *Health Condition*.

In the next step within each relevant chunk of the two models the most relevant variables corresponding to the dependent variable were selected by calculating correlations (Spearman) to the dependent variable HAQ and Social Function Scale, respectively, and by including variables using a cut off of $p < 0.1$ (concerning correlation of independent variables to the dependent variable).

Next step was to check collinearity of variables within chunks and to select variables at inter-correlation $r > 0.6$ in ambition to avoid redundancy. This threshold was presumed to fit a stringent variable selection intending to conduct the multivariate regression analyses.

Finally all variables that indicated significant univariate relation to the dependent variable with $p < 0.1$ and collinearity to all other included variables with $r < 0.6$ were included into the final models respectively.

Multivariate regression analyses

Multivariate stepwise backward regression analyses for explaining activity limitations and for explaining participation restrictions were conducted starting with the body functions and structures subchunks, then the activity chunk (only in the participation model), personal factors chunk, environmental factors chunk and health condition chunk (order of addition).

Because of interest of the effect of Ratingen Score a regression analysis with a subsample of subjects who had complete data for Ratingen Score was performed analogue to the models described above.

Alternative Models were conducted to examine whether alternative variables within chunks may substitute the “original” variable to generalize results.

5. Results

5.1. Patients

Cross sectional data have been acquired from 113 RA patients assessed in Zurich, and 126 patients assessed in Munich.

Altogether there were 239 patients of whom 79% were female and 20 % male. Their age ranged from 19 to 87 with a mean of 56 (SD: 13). RA disease duration ranged from 1 to 55 years with a mean of 10 (SD: 11). The age at disease onset ranged from 5 to 76 years with a mean of 45 (SD: 15). The DAS28 ranged from 0.8 to 7.8 with a mean of 4.2 (SD: 1.5), the RADAI ranged from 0.3 to 9.6 with a mean of 4.6 (SD: 2.1), the HAQ ranged from 0 to 3.0 with a mean of 1.3 (SD: 0.7).

17% (N= 38/215) of the patients had anaemia (Hb < 12.0 g/dl), Hemoglobin Hb and Vitality were weakly correlated ($r = 0.21$, $p < 0.003$).

The subgroups (Munich/Zurich) were comparable regarding basic characteristics like age, gender, disease duration. The DAS28 ($p = 0.000$) and RADAI ($p = 0.002$) indicated higher scores in the Zurich subsample.

Table 1: Patient characteristic

Variable	N	Percent
living alone	55	23.0 %
smoker	57	23.8 %
regularly alcohol drinking	119	49.8 %
high school degree and higher education level	58	24.2%
unable to work	57	23.8 %
unemployed	5	2.1 %
employed	55	23.0 %
retired	104	43.5 %
housewife	52	21.8
others	14	5.8 %

5.2. Multivariate linear regression analysis

Two models have been run explaining activity limitations and participation restrictions in RA, respectively (see Attachments Table 6 and 7).

Model I (Activity model)

For the first model 17 variables were available after running the selection procedure described above. The result of the regression analysis with these 17 variables indicated that Vitality, DAS, RADAI, SODA Pain Score, MSI, EPM-ROM and disease duration added in this order were independent explaining variables of activity limitations measured by the HAQ in RA (see Table 5 in Attachments). Vitality as the strongest variable explained 28.7%, the DAS 9.8%, the SODA PAIN Score 4.1%, the RADAI 3.6%, the MSI 3.2%, disease duration 2.0% and the EPM-ROM 1.6% of the total variance.

Table 2: Multivariate stepwise backward regression analysis with HAQ as dependent variable, final model I

Incl. Variables	R ²	adjusted R ²	B	p
	.555	.530		
Vitality			-.313	.000
DAS28			.170	.017
RADAI			.211	.006
SODA Pain			.130	.058
MSI			-.164	.016
EPM-ROM			.090	.199
disease duration			.168	.012

No alternative model for explaining activity limitations was run because no redundant variables existed.

Model II (Participating model)

15 variables were selected in the second model according to the selection procedure explained above. The result of the regression analysis indicated that Vitality, Mental Health, HAQ and living alone added in this order were independent explaining variables of participation restrictions measured by the Social Function Scale in RA (see Table 6 in Attachments). 33.6 % of the total variance were explained by Vitality, 4.2 % by Mental Health, 2.6 % by living alone and 2.0 % by the HAQ.

Table 3: Multivariate stepwise backward regression analysis with Social Function Scale of SF-36 as dependent variable, final model II

Incl. variables	R²	adjusted R²	B	P
	.441	.424		
Vitality			.330	.000
Mental Health			.262	.001
HAQ			-.188	.019
living alone			-.173	.010

Alternative model II:

Substituting the HAQ by the next best associated variable Physical Function Scale of the SF-36 in the Participation model the result of the regression analysis indicated that 3 % of the total variance were explained by Physical Function Scale (in comparison to the model which included the HAQ, the HAQ explained 2 %). Further 33.6 % were explained by Vitality, 4.2 % by Mental Health and only 1.9 % by living alone.

Subsample model (Ratingen Score inclusive)

A subsample of patients (n=85) with complete data of joint destruction in terms of radiologic Ratingen Score was available to conduct a multivariate regression analysis corresponding to the variable selection procedure showed above for both models.

With a view to run the Activity model with this subsample, the number of selected variables was 17 (n = 85). That did not fit with the standard guideline (including at the most 1 variable per 10 subjects into the model). Therefore an alternative way to select variables running the following strategy was chosen: the one variable of each relevant chunk/subchunk with the highest correlation to the HAQ (dependent variable) was selected. After checking collinearity, those were Vitality, RADAI, SODA Pain Score, MSI, inability to work, disease duration. Ratingen Score must be added separately, because it did not present the highest correlation to the HAQ in the subchunk *joints*. Finally stepwise regression with these 7 variables was conducted (see Table 8 in Attachments). In this subsample model the Ratingen Score explained 7.8%, Vitality explained 30.6 % and the RADAI 6.5 % of the total variance.

Table 4: Subanalysis with Ratingen Score

Multivariate stepwise backward regression analysis with HAQ as dependent variable, final subsample model

Incl. variables	R ²	Adjusted R ²	B	p
	.484	.449		
Vitality			-.405	.005
RADAI			.313	.025
Ratingen Score			.296	.010

Alternative subsample model

Substituting the SODA Pain Score by the Body Pain Scale of the SF-36 in running the Activity model with the subsample there was no effect.

No appropriate subsample model for explaining participation restrictions could be conducted because of not significant correlation of Ratingen Score to the dependent variable ($r = -.034$, $p = 0.760$).

6. Discussion

The results indicated that explaining variables of activity limitations in RA were Vitality, RADAI, DAS, pain, MSI, EPM-ROM and disease duration with a globally explained variance of 53.0 %. In the second model explaining variables of participation restrictions in RA were Vitality, Mental Health, HAQ and living alone with a globally explained variance of 42.4 %.

In model I **Vitality** was the strongest explaining variable of activity limitations. This is a new aspect in RA modelling disease impact. Vitality is a scale that includes 4 different items namely fatigue, pep, motivation and energy. It is well established that fatigue as one item of Vitality is a frequent and major problem for patients in RA [Rupp 2006] and that it appears to be a treatable target in the clinical management of RA. A recent examination indicated a strong association of Vitality to fatigue [Cella 2005]. High fatigue levels characterize RA and are mainly linked to pain and depression [Pollard 2006]. The items fatigue, energy and pep may be strongly influenced by anaemia being a frequent comorbidity in RA. Treatment of anaemia in RA patients with erythropoietin was evaluated to be effective in correction of anaemia, in improving muscle strength and Vitality and in reducing fatigue and disease activity [Kaltwasser 2001]. Thereby must be discussed to what extent anaemia in RA patients is responsible for low Vitality and consequently for activity limitations in RA patients according to this model. In the evaluated patient group compared to general estimates of prevalence of anaemia a lower proportion of patients had anaemia [Wilson 2004, Baer 1990]. For that this may not declare the high explaining potency of Vitality in this sample. Moreover different psychological factors like depression or anxiety could influence Vitality. Depression is also known as a physical function [Covic 2006] and quality of life [Rupp 2006] influencing issue in RA. Anxiety as well was described to influence physical function (measured by the HAQ) [Soderlin 2000]. The Vitality composing items form together a comprehensive scale that may explain the major influence of Vitality on activity limitations in RA patients. **MSI** and **EPM-ROM** are measures of muscle strength and joint mobility. Until now they are scarcely evaluated explaining variables of activity limitations in RA in a regression model. Thereby the association of MSI [Stucki 1998a] and

of joint mobility [Hakkinen 2005] to physical function was already demonstrated. In the past leg muscle strength was detected to be associated with walking ability [Madsen 2001]. A recent examination depicted the impact of muscle strength on physical function (measured by the HAQ) especially in female RA patients in a regression analysis [Hakkinen 2006]. These findings are generally in concordance with our results. The association of EPM-ROM to activity limitations was not evaluated in a regression analysis to our knowledge so far. In this study there was found both MSI and EPM-ROM showing a considerable amount of activity limitations explaining variance of together 4.8 %. These findings confirm my presumption that both rehabilitation parameters are relevant for clinical practice.

The other explaining variables (**RADAI, DAS, pain, disease duration**) of the model I confirm the findings of the past.

In model II **Vitality** and **Mental Health** explained a great part of the total variance of participation restrictions (together 37.8 %) indicating that comprehensive scales of health like Vitality including energy, motivation, fatigue and pep and Mental Health covering psychological aspects like depression, well being and mood have an extensive influence on participation in daily living in RA. The association of vitality to participation in RA is not especially described in any publication so far. In one examination depression in RA (measured by Arthritis Impact measurement Scale AIMS subscale) was found to be explained by social inactivity next to poor physical function and comorbidities [Soderlin 2000].

Living alone is an item of living situation that could restrict patients in participation on social life because of missing motivation and enjoyment feeling lonesome. A partner could have a major motivating and organising influence for participation in leisure activities, culture events, hobbies despite of prevalence of the disease and its consequences (impairments, activity limitations).

The **HAQ** measuring physical function and for that representing activity limitations may have additionally reflected impairments in RA caused by disease activity because patients assessed indirectly e.g. pain or swollen and tender joints in declaring loss of physical function. Hence the association of participation and factors of the component body functions and structures

seemed to be covered by the HAQ taking into account variables of disease activity expressed by loss of function. In the past there were discovered associations between Social Function Scale of SF-36 and physical function [Birrell 2000] without conducting regression analyses to evaluate the amount of influence.

These findings in model II especially concerning the variables Vitality and Mental Health are new aspects in this context, for there exist no comparable evaluation so far.

In the subsample model (incl. Ratingen Score) influencing variables of activity limitations were Vitality, RADAI-Score and Ratingen Score. The **Ratingen Score** had a relevant influence as expected. In recent relevant studies the association of joint destruction to loss of physical function was presented [Hazes 2003, Guillemin 2000, Escalante 1999, Holm 1998].

Recapitulating with these findings there is evidence that multiple variables have a relevant influence on the health status and hence are important for planning adequate therapy management in terms of multidisciplinary treatment strategies in RA. Regarding the ICF Model these multiple variables influencing activity limitations are representatives of the components *Body Functions* (vitality, disease activity, pain, muscle strength and joint mobility) and *Structures* (joint destruction) and *Health Condition* (disease duration). The variables influencing participation restrictions are representatives of the components *Body Functions* (vitality, mental health), *Activities* (HAQ) and *Environmental Factors* (living alone). In my cross sectional data set the findings of the above mentioned study [Fransen 2002] could be confirmed concerning the association between impairments and activity limitations (model I) as well as between impairments, activity limitations and participation restrictions (model II) respectively in regression analyses. It has to be mentioned that environmental factors are even important influencing variables as shown in model II.

Differences to recent modelling examinations were that the item depression was not depicted as activity limitations explaining variable probably because of being covered by the Vitality scale. Further no sociodemographic variables (e.g. unemployed, jobless) came in one of the models. The well known

associations of these variables in this context could not be confirmed in our regression models.

The study holds some limitations. Multivariate analyses with a cross-sectional data set were conducted. Longitudinal analyses may present more predictive information in the sense of influence or causality. The sample size was rather limited. Moreover only a small subsample analysis could be run with complete data of joint destruction. Other aspects which could have an explaining effect in this context like further psychological factors (e.g. anxiety), income, coping strategies, self-efficacy and illness perception were not included in the data set. Aspects which were not covered in this study looking at the impact of RA on physical function are muscle endurance and coordination. These variables may be relevant for rehabilitative treatment strategies in practice and therefore important to be evaluated in a regression analysis.

The study population based on university setting. It is evident that more urbanites were recruited than rural living patients because the latter may have more difficulties to reach the university centre. More severe affected rural living patients may have avoided the exhausting journey to the centre. Environmental influences of the different living situations of the patients may have had an influence on activities and participation of the patients and may have biased the models. I.e. the capacity of walking may be less important for participation in urban setting as in a rural setting. It is possible that patients with different attributes or qualities recruited. Hence the generalisability of our findings is limited.

The ICF Model was used to examine relations between disease consequences and potentially explaining variables. Models were built which in future may help designing studies, planning therapy strategies, monitoring treatment outcomes and learning about the impact of a chronic disabling disease like RA. It may be an advantage for multidisciplinary patient care if systematic assessment and modelling of disease consequences identify data sets on the basis of the ICF [Stucki 1998b].

7. Conclusion

In a cross sectional setting variables influencing activity limitations in RA are Vitality, DAS, RADAI, pain, Ratingen Score, MSI, EPM-ROM and disease duration; variables influencing participation restrictions are Vitality, Mental Health, HAQ and living alone. In a wide spectrum there were found variables out of all components of the ICF. This indicates the comprehensive influences of these factors on the health status of RA patients. The common opinion that comprehensive multidisciplinary treatment in RA is relevant for outcome is supported. In conclusion these findings are relevant for clinical aspects and rehabilitation strategies, for teaching and for research in RA.

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9. Attachments

9.1. Tables 5-8

Table 5: Measures assigned to the ICF Components

Instrument	Measured variable	ICF Component
DAS	disease activity (clinicians perspective)	impairments of body functions and structures
RADAI	disease activity (patients perspective)	impairments of body functions and structures
HAQ	physical function	activity limitations
SF-36	general health subscales: vitality mental health physical function physical role emotional function social function body pain	impairments of body functions and structures impairments of body functions and structures activity limitations activity limitations participation restrictions participation restrictions impairments of body functions and structures
Comorbidity	comorbidities	personal factors health condition
Socio-demography questionnaire	recreational activities living situation education	participation restrictions personal factors environmental factors
Ratingen Score	joint destruction	impairments of body functions and structures
MSI	muscle strength	impairments of body functions and structures
EPM-ROM	joint mobility	impairments of body function and structures
SODA	dexterity of the upper extremity	activity limitations
Disease characteristic		health condition

Table 6: Model I – winner chunks and variables in regression analysis

ICF component chunks	Variables Winner in selected chunks with the highest correlation (r>0.6)	Variables Winner in regression analysis
Body Functions and Structures	Vitality	Vitality
	Mental Health	
	DAS	DAS
	RADAI	RADAI
	Body pain	
	SODA pain	SODA pain
	EPM-ROM	EPM-ROM
	MSI	MSI
Health condition	Disease duration	Disease duration
	ANA (Disease characteristic)	
	Visceral involvement	
Personal factors	Sex	
	Comorbidity	
	Unable to work	
	Employed	
	Education: technical school	
	Retired	
Environmental factors	-	-

Table 7: Model II – winner chunks and variables in regression analysis

ICF component chunks	Variables Winner in selected chunks with the highest correlation (r>0.6)	Variables Winner in regression analysis
Body Functions and Structures	Vitality	Vitality
	Mental health	Mental health
	DAS	
	RADAI	
	Body pain	
	SODA pain	
	MSI	
Activities	HAQ	HAQ
	SODA	
	Physical role	
Personal factors	Comorbidity	
	Unable to work	
	Jobless	
	Education: technical school	
	Living alone	Living alone
Environmental factors	-	-
Health condition	-	-

Table 8: Subsample Activity model with Ratingen Score – winner chunks and variables in regression analysis

ICF component chunks	Variables Winner in selected chunks with the highest correlation ($r > 0.6$)	Variables Winner in regression analysis
Body Functions and Structures	Vitality	Vitality
	RADAI	RADAI
	Ratingen Score	Ratingen Score
	SODA pain	
	MSI	
Health condition	Disease duration	
Personal factors	Unable to work	
Environmental factors	-	-

9.2. CURRICULUM VITAE (Lebenslauf)

Angaben zur Person

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Geburtsdatum: 16. 02. 1969
Geburtsort: Ansbach, Mittelfranken
Nationalität: deutsch
Zivilstand: verheiratet

Schulbildung

1975-1978 Besuch der Grundschule in Ansbach
1978-1979 Besuch der Grundschule Bremen-Oberneuland
1979-1981 Besuch der Orientierungsstufe Bremen- Rockwinkel
1981-1985 Besuch des Alten Gymnasiums in Bremen
1985-1988 Besuch des Kaiser-Heinrich-Gymnasiums in Bamberg
Frühjahr 1988 Abitur

Berufsausbildungen

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März 1991 Staatsexamen für Krankengymnastik
31. März 1992 Anerkennungsjahr (3. Ausbildungsjahr)
am Krankenhaus Schwabing, München

April 1993 – Oktober 1999	Studium der Humanmedizin an der Freien Universität FU Berlin
März 1996	I. Staatsexamen
März 1998	II. Staatsexamen
August 1998 - Juli 1999	Praktisches Jahr
12. Oktober 1999	III. Staatsexamen (Ärztliche Prüfung)
November/ Dezember 1999	Hospitation in der Abteilung für Physikalische Medizin und Rehabilitation am Klinikum Grosshadern, Klinikum der Universität München

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1. Juni 2000 - 30. Juni 2001	Tätigkeit als Ärztin im Praktikum in der Klinik und Poliklinik für Physikalische Medizin und Rehabilitation, Klinikum der Universität München

01. Juli 2001 –

bis dato 2007

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Zusatzqualifikationen

Sonographie am Bewegungsapparat	2001
Manuelle Medizin, Bereich „Chirotherapie“	2002-2004
Akupunktur (DAEGFA) begonnen	2004

Publikationen

Hülsemann JL, Mattussek S, Hennig H, Stucki G. Quality management of treatment of rheumatoid arthritis in a rheumatological setting. Z Arztl Fortbild Qualitatssich. 2003;97(6):383-90.

Brockow T, Cieza A, Kuhlow H, Sigl T, Franke T, Harder M, Stucki G. Identifying the concepts contained in outcome measures of clinical trials on musculoskeletal disorders and chronic widespread pain using the International Classification of Functioning, Disability and Health as a reference. J Rehabil Med. 2004;(44 Suppl):30-6.

9.3. ATTACHEMENT

Data Set Rheumatoid Arthritis

German Version of DAS Score, Disease Characteristics, EPM-ROM, MSI, Sociodemography Questionnaire, SCQ Comorbidity Questionnaire, SF-36, HAQ, RADAI, SODA



25394

Set Einschluss

Klinisches Qualitätsmanagement Rheumatoide Arthritis

Projekt der niedergelassenen Rheumatologen
und der Rheuma-Einheit der Universität München

Koordinationsstelle:
Rheuma-Einheit der Universität München
Marchioninistrasse 15, 81377 München

Ludwig _____
Maximilians-
Universität _____
München _____

LMU

Visitendatum:

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Patientenerkennung

Bitte kleben Sie hier die
Etikette auf!

Angaben über den Patienten

Geburtsdatum:

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Geschlecht:

weiblich männlich

Arzt:



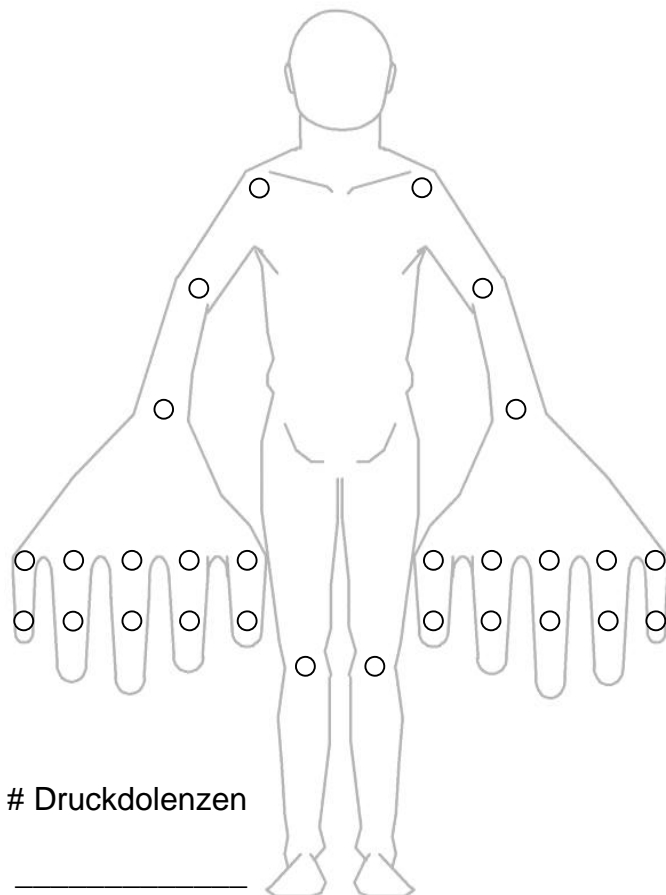
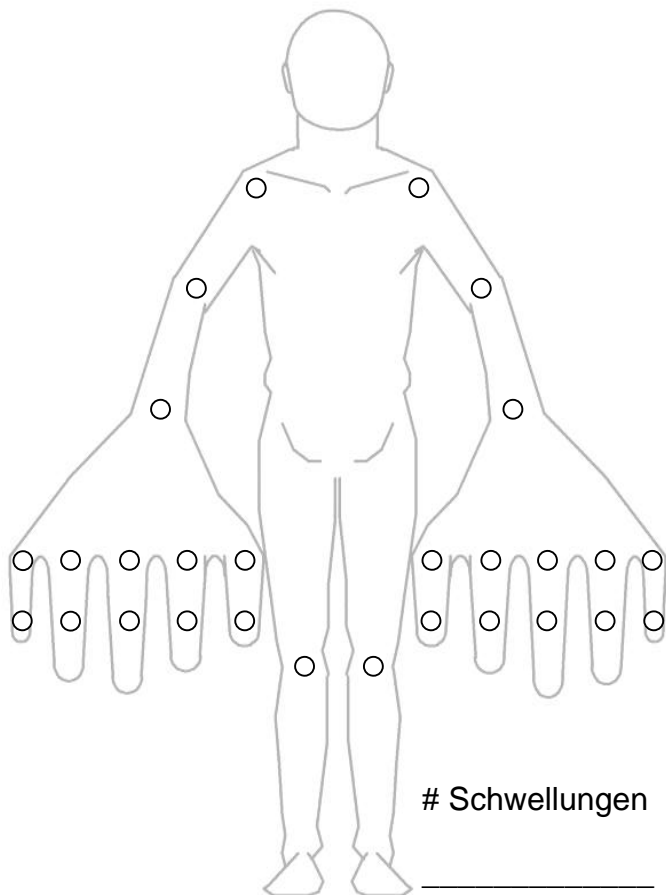
25394

Arzt

RA-Aktivität (DAS)

Schwellungen

Druckdolenzen



Schwellungen

Druckdolenzen

Globalbeurteilung Krankheitsaktivität durch den Arzt/die Ärztin

kein	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	maximal
------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	---------

Laborwerte

BSG _____ mm/h	Leuko _____ x 10 ³ /µl	Kreatinin _____ mg/dl
Hb _____ g/dl	Thrombo _____ x 10 ³ /µl	GPT (ALT) _____ U/l

Medikamente	Dosierung		Bei Medikamentenänderung	
	bisher	neu	Grund Beginn	Grund Abbruch
*Basis
.....
**Folsäure
Steroide
NSAR
.....
Analgetika
.....

* Bitte Applikationsformen angeben (p.o., parenteral, s.c., i.m.)

** MTX, Enbrel und Folsäure: nur in mg/Woche

Remicade : mg/Infusion



Krankheitscharakteristik

	keine Angaben	positiv/ja	negativ/nein
1. RA in der Familie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Autoimmunopathie in der Familie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Rheumafaktoren positiv	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Antinukleäre AK (ANA) positiv	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Vaskulitis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Rheumaknoten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Siccasymptomatik	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Organbeteiligung	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Osteoporose aufgrund:			
a) klinisch/radiologisch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Knochendichtemessung	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Messung DXA	T-Score LWS _____, Schenkelhals _____		
10. Beginn der Symptome	Jahr	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Monat <input type="text"/> <input type="text"/>
11. Jahr der Diagnosestellung	Jahr	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Monat <input type="text"/> <input type="text"/>
12. Erstkonsultation beim Rheumatologen	Jahr	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Monat <input type="text"/> <input type="text"/>
13. Anzahl Konsultationen beim Rheumatologen	<input type="text"/> <input type="text"/> pro Jahr		
13. a) Funktionelles Stadium (HOCHBERG)	I <input type="radio"/>	II <input type="radio"/>	III <input type="radio"/>
14. Körpergewicht	<input type="text"/> <input type="text"/> <input type="text"/> kg		
15. Körpergröße	<input type="text"/> <input type="text"/> <input type="text"/> cm		
16. Hormonstatus bei Frauen	<input type="radio"/> prämenopausal		<input type="radio"/> postmenopausal
17. Bisherige Basistherapien			
	ja	nein	Dauer in Monaten
Azathioprin (Imurek)	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Chloroquin (Plaquenil, Resochin)	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Cyclosporin A (Sandimmun)	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Cyclophosphamid (Endoxan)	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Gold p.o. (Ridaura)	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Gold i.m. (Tauredon)	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Methotrexat i.m./i.v./s.c.	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Methotrexat p.o.	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
D-Penicillamin (Metalcaptase, Trolovol, Trisorcin)	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Sulfasalazin (Pleon, Colo-Pleon, Azulfidine)	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Andere	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>



18. Glukokortikoide					
Dauersteroidtherapie	> 10 mg				Monate
(Prednisonäquivalent)	< 10 mg				Monate

19. Osteoporosetherapie			
<input type="radio"/>	Bisphosphonate	<input type="radio"/>	Calcitonin
<input type="radio"/>	Hormontherapie	<input type="radio"/>	Fluor
<input type="radio"/>	Vit. D	<input type="radio"/>	Calcium
<input type="radio"/>	1.25 Hydroxy Vit. D	<input type="radio"/>	Andere

20. Rheumaoperationskatalog (Kodierung)

ART		ORT (Gelenke)		SEITE	
1	Arthroskopie diagnostisch	1	Daumen	1	rechts
2	Arthroskopie therapeutisch	2	Fingermittelgelenk	2	links
3	Arthrodese	3	Fingergrundgelenk	3	beidseitig
4	Diskektomie	4	Thenar		
5	Gelenkersatz	5	Hand		
6	Geradestellung der Beine	6	Handgelenk		
7	Hallux valgus-Operation	7	Schulter		
8	Korrektur-Operation	8	Ellenbogen		
9	Neurolyse (z.B.CTS-Op.)	9	Hüfte		
10	Radiosynoviorthese	10	Knie		
11	Synovektomie (Gelenke)	11	Mittelfuss		
12	Tenosynovektomie	12	Zehen		
13	WS-Stabilisierung	13	Halswirbelsäule		
14	Andere	14	Brustwirbelsäule		
		15	Lendenwirbelsäule		
		16	oberes Sprunggelenk		
		17	unteres Sprunggelenk		
		18	Andere		

OP-Kodierung	Zahl	Zahl	Zahl
BEISPIEL	8	1 1	2
1. Operation			
2. Operation			
3. Operation			
4. Operation			
5. Operation			
6. Operation			
7. Operation			
8. Operation			
9. Operation			

21. Krankenhausaufenthalte	ja	nein
Im Zusammenhang mit RA	<input type="radio"/>	<input type="radio"/>
Andere Gründe	<input type="radio"/>	<input type="radio"/>

22. Bisherige Physiotherapie _____

23. Bisherige Ergotherapie _____



25394

EPM-ROM Skala

		Rechts				Links					
Beispiel OSG		<u>10</u>	<input type="radio"/> <10	<input checked="" type="radio"/> 10-24	<input type="radio"/> 25-35	<input type="radio"/> >35	<u>5</u>	<input type="radio"/> >35	<input type="radio"/> 35-25	<input type="radio"/> 24-10	<input checked="" type="radio"/> <10
Ellenbogen	Extension	<u> </u>	<input type="radio"/> >70	<input type="radio"/> 70-30	<input type="radio"/> <30	<u> </u>	<input type="radio"/> <30	<input type="radio"/> 30-70	<input type="radio"/> >70		
	Flexion	<u> </u>	<input type="radio"/> <80	<input type="radio"/> 80-109	<input type="radio"/> 110-130	<input type="radio"/> >130	<u> </u>	<input type="radio"/> >130	<input type="radio"/> 130-110	<input type="radio"/> 109-80	<input type="radio"/> <80
Handgelenk	Extension	<u> </u>	<input type="radio"/> <30	<input type="radio"/> 30-54	<input type="radio"/> 55-70	<input type="radio"/> >70	<u> </u>	<input type="radio"/> >70	<input type="radio"/> 70-55	<input type="radio"/> 54-30	<input type="radio"/> <30
	Flexion	<u> </u>	<input type="radio"/> <30	<input type="radio"/> 30-54	<input type="radio"/> 55-70	<input type="radio"/> >70	<u> </u>	<input type="radio"/> >70	<input type="radio"/> 70-55	<input type="radio"/> 54-30	<input type="radio"/> <30
Daumen	Abduktion	<u> </u>	<input type="radio"/> <20	<input type="radio"/> 20-35	<input type="radio"/> >35	<u> </u>	<input type="radio"/> >35	<input type="radio"/> 35-20	<input type="radio"/> <20		
	Flexion	<u> </u>	<input type="radio"/> <30	<input type="radio"/> 30-49	<input type="radio"/> 50-70	<input type="radio"/> >70	<u> </u>	<input type="radio"/> >70	<input type="radio"/> 70-50	<input type="radio"/> 49-30	<input type="radio"/> <30
Finger (durchschnittlich)	Flexion	<u> </u>	<input type="radio"/> <30	<input type="radio"/> 30-49	<input type="radio"/> 50-70	<input type="radio"/> >70	<u> </u>	<input type="radio"/> >70	<input type="radio"/> 70-50	<input type="radio"/> 49-30	<input type="radio"/> <30
Hüfte	Flexion	<u> </u>	<input type="radio"/> <30	<input type="radio"/> 30-89	<input type="radio"/> 90-120	<input type="radio"/> >120	<u> </u>	<input type="radio"/> >120	<input type="radio"/> 120-90	<input type="radio"/> 89-30	<input type="radio"/> <30
Knie	Extension	<u> </u>	<input type="radio"/> >30	<input type="radio"/> 30-11	<input type="radio"/> 10-5	<input type="radio"/> <5	<u> </u>	<input type="radio"/> <5	<input type="radio"/> 5-10	<input type="radio"/> 11-30	<input type="radio"/> >30
OSG	Plantarflexion	<u> </u>	<input type="radio"/> <10	<input type="radio"/> 10-24	<input type="radio"/> 25-35	<input type="radio"/> >35	<u> </u>	<input type="radio"/> >35	<input type="radio"/> 35-25	<input type="radio"/> 24-10	<input type="radio"/> <10

Muskelkraft-Index MSI

Messung der isometrischen Kraft der rechten Körperseite.

		Rechts	Perzentile
Ellenbogen	Extension	<u> </u> kp	<u> </u>
	Flexion	<u> </u> kp	<u> </u>
Knie	Extension	<u> </u> kp	<u> </u>
	Flexion	<u> </u> kp	<u> </u>
Greifkraft		<u> </u> bar	<u> </u>



25394

Soziodemographie

Bitte kreuzen Sie die zutreffenden Antworten an:

Wohnsituation, Beruf

1. Wohnsituation a) städtisch (Agglomeration mit mehr als 10'000 Einwohnern)
 ländlich (Agglomeration mit weniger als 10'000 Einwohnern)

- b) in eigenem Haus
 in Wohnung
 in Heim, Pension

2. Mit wem leben Sie gegenwärtig zusammen?

- alleine
 mit Ihrem Ehegatten / Partner
 mit anderen Personen

3. Welche Schule haben Sie zuletzt besucht (nur höchste Stufe angeben)?

- keine Schule besucht
 obligatorische Schulen (z.B. Grund- und Hauptschule)
 Berufs-, Gewerbe-, Handelsschule, Lehre
 Gymnasium, Berufsmittelschule, Seminar
 Fachhochschule
 Universität, Hochschule

4. Welchen Beruf üben Sie zur Zeit aus? (auch Hausfrau, -mann)

-
5. Wie sind Sie zur Zeit beschäftigt, bzw. woher beziehen Sie Ihre Einkünfte?

- in Ausbildung
 selbständig
 im Angestellten-Verhältnis
 Hausfrau/-mann
 arbeitslos
 pensioniert
 Sozialhilfe-Empfänger/in (Fürsorge)
 Rentner/in (IV-, Unfallrente)



25394

6. Wieviele Wochenstunden sind Sie in Ihrem Beruf tätig?
(Auch Hausfrau, -mann)

Stunden pro Woche

7. Würden Sie mehr arbeiten ohne Ihre rheumatische Erkrankung?

 Nein Ja

8. Waren Sie in den letzten 3 Monaten arbeitsunfähig als Folge der
rheumatoiden Arthritis?

 Nein Ja

Wenn ja, wieviele Tage?

Tage

Lebensgewohnheiten

9. Rauchen Sie zur Zeit?

 Nein Ja

Wenn ja, Zig./Tag seit Jahren

10. Trinken Sie alkoholische Getränke?

 Nein Ja

Wenn ja, gelegentlich täglich 1x mehrmals täglich

Sportliche Aktivitäten

11. Wieviel Zeit verbringen Sie üblicherweise täglich mit Gehen, Fahrradfahren oder ähnlichen
Tätigkeiten im Freien?

- Keine
- etwas, aber weniger als eine halbe Stunde
- 30 bis 60 Minuten
- über eine Stunde

12. Wie lange treiben Sie Sport (oder irgendeine körperliche Aktivität während der Freizeit),
so dass Sie ins Schwitzen und ausser Atem kommen?

- Mehr als 2 Stunden in der Woche
- 1 bis 2 Stunden in der Woche
- Weniger als 1 Stunde in der Woche
- Keine sportliche Betätigung



Gesundheitsprobleme

Wird Ihr Gesundheitszustand gegenwärtig durch eine der folgenden Gesundheitsprobleme beeinträchtigt?

Bitte beantworten Sie alle Fragen für die nachfolgenden Krankheiten:

Leiden Sie an ...

1. hohem Blutdruck?	Nein <input type="radio"/> → Gehen Sie zu Frage 2!	
	Ja <input type="radio"/>	<p>➤ Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein</p> <p>➤ Sind Sie durch hohen Blutdruck in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein</p>
2. Herzerkrankung?	Nein <input type="radio"/> → Gehen Sie zu Frage 3!	
	Ja <input type="radio"/>	<p>➤ Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein</p> <p>➤ Sind Sie durch eine Herzerkrankung in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein</p>
3. Schlaganfall oder Durchblutungsstörung?	Nein <input type="radio"/> → Gehen Sie zu Frage 4!	
	Ja <input type="radio"/>	<p>➤ Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein</p> <p>➤ Sind Sie durch einen Schlaganfall oder eine Durchblutungsstörung in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein</p>
4. Gemüteserkrankung oder Depression?	Nein <input type="radio"/> → Gehen Sie zu Frage 5!	
	Ja <input type="radio"/>	<p>➤ Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein</p> <p>➤ Sind Sie durch eine Gemüteserkrankung oder eine Depression in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein</p>
5. Diabetes/ Zuckerkrankheit?	Nein <input type="radio"/> → Gehen Sie zu Frage 6!	
	Ja <input type="radio"/>	<p>➤ Nehmen Sie dafür zur Zeit Medikamente/ Insulin? <input type="radio"/> Ja <input type="radio"/> Nein</p> <p>➤ Sind Sie durch Diabetes in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein</p>
6. Übergewicht oder hohen Blutfetten?	Nein <input type="radio"/> → Gehen Sie zu Frage 7!	
	Ja <input type="radio"/>	<p>➤ Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein</p> <p>➤ Sind Sie durch Übergewicht oder hohe Blutfette in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein</p>
7. Krebs?	Nein <input type="radio"/> → Gehen Sie zu Frage 8!	
	Ja <input type="radio"/>	<p>➤ Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein</p> <p>➤ Sind Sie durch Krebs in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein</p>



25394

Leiden Sie an ...

8. Alkohol- oder Drogeneinnahme?	Nein <input type="radio"/> → Gehen Sie zu Frage 9!	
	Ja <input type="radio"/>	<input type="checkbox"/> Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein <input type="checkbox"/> Sind Sie durch Alkohol- oder Drogeneinnahme in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein
9. Lungen-erkrankung?	Nein <input type="radio"/> → Gehen Sie zu Frage 10!	
	Ja <input type="radio"/>	<input type="checkbox"/> Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein <input type="checkbox"/> Sind Sie durch eine Lungenerkrankung in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein
10. Nierenerkrankung?	Nein <input type="radio"/> → Gehen Sie zu Frage 11!	
	Ja <input type="radio"/>	<input type="checkbox"/> Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein <input type="checkbox"/> Sind Sie durch eine Nierenerkrankung in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein
11. Lebererkrankung?	Nein <input type="radio"/> → Gehen Sie zu Frage 12!	
	Ja <input type="radio"/>	<input type="checkbox"/> Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein <input type="checkbox"/> Sind Sie durch eine Lebererkrankung in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein
12. Magengeschwür oder Magen- / Darmerkrankung?	Nein <input type="radio"/> → Gehen Sie zu Frage 13!	
	Ja <input type="radio"/>	<input type="checkbox"/> Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein <input type="checkbox"/> Sind Sie durch ein Magengeschwür oder eine Magen-/Darmerkrankung in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein
13. Blutarmut oder anderer Bluterkrankung?	Nein <input type="radio"/> → Gehen Sie zu Frage 14!	
	Ja <input type="radio"/>	<input type="checkbox"/> Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein <input type="checkbox"/> Sind Sie durch Blutarmut oder eine andere Bluterkrankung in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein
14. Rückenleiden?	Nein <input type="radio"/> → Gehen Sie bitte zur nächsten Seite!	
	Ja <input type="radio"/>	<input type="checkbox"/> Nehmen Sie dafür zur Zeit Medikamente? <input type="radio"/> Ja <input type="radio"/> Nein <input type="checkbox"/> Sind Sie durch ein Rückenleiden in Ihrer Aktivität eingeschränkt? <input type="radio"/> Ja <input type="radio"/> Nein



25394

Allgemeine Gesundheit

In diesem Fragebogen geht es um Ihre Beurteilung Ihres Gesundheitszustandes. Der Bogen ermöglicht es, im Zeitverlauf nachzuvollziehen, wie Sie sich fühlen und wie Sie im Alltag zurechtkommen.

Bitte beantworten Sie jede der folgenden Fragen, indem Sie bei den Antwortmöglichkeiten den Kreis ausmalen, der am besten auf Sie zutrifft.

1. Wie würden Sie Ihren Gesundheitszustand im Allgemeinen beschreiben?

(Bitte wählen Sie nur eine Antwort aus.)

- Ausgezeichnet
- Sehr gut
- Gut
- Weniger gut
- Schlecht

2. **Im Vergleich zum vergangenen Jahr**, wie würden Sie Ihren **derzeitigen** Gesundheitszustand beschreiben?

(Bitte wählen Sie nur eine Antwort aus.)

- Derzeit viel besser als vor einem Jahr
- Derzeit etwas besser als vor einem Jahr
- Etwa so wie vor einem Jahr
- Derzeit etwas schlechter als vor einem Jahr
- Derzeit viel schlechter als vor einem Jahr



3. Im folgenden sind einige Tätigkeiten beschrieben, die Sie vielleicht an einem durchschnittlichen Tag ausüben. **Sind Sie durch Ihren derzeitigen Gesundheitszustand bei diesen Tätigkeiten eingeschränkt?** Wenn ja, wie stark?

(Bitte wählen Sie in jeder Zeile nur eine Antwort aus.)

TÄTIGKEITEN	Ja, stark eingeschränkt	Ja, etwas eingeschränkt	Nein, überhaupt nicht eingeschränkt
a. anstrengende Tätigkeiten , z.B. schnell laufen, schwere Gegenstände heben, anstrengenden Sport treiben	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. mittelschwere Tätigkeiten , z.B. einen Tisch verschieben, Staubsaugen, Kegeln, Golf spielen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Einkaufstaschen heben oder tragen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. mehrere Treppenabsätze steigen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. einen Treppenabsatz steigen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. sich beugen, knien, bücken	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. mehr als 1 Kilometer zu Fuss gehen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. mehrere Strassenkreuzungen (ca. 500m) weit zu Fuss gehen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. eine Strassenkreuzung (ca. 100m) weit zu Fuss gehen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. sich baden oder anziehen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Hatten Sie in den **vergangenen 4 Wochen aufgrund Ihrer körperlichen Gesundheit** irgend welche Schwierigkeiten bei der Arbeit oder anderen alltäglichen Tätigkeiten im Beruf bzw. zu Hause?

(Bitte wählen Sie in jeder Zeile nur eine Antwort aus.)

SCHWIERIGKEITEN	Ja	Nein
a. Ich konnte nicht so lange wie üblich tätig sein	<input type="radio"/>	<input type="radio"/>
b. Ich habe weniger geschafft als ich wollte	<input type="radio"/>	<input type="radio"/>
c. Ich konnte nur bestimmte Dinge tun	<input type="radio"/>	<input type="radio"/>
d. Ich hatte Schwierigkeiten bei der Ausführung (z.B. ich musste mich besonders anstrengen)	<input type="radio"/>	<input type="radio"/>



25394

5. Hatten Sie in den **vergangenen 4 Wochen aufgrund seelischer Probleme** irgendwelche Schwierigkeiten bei der Arbeit oder anderen alltäglichen Tätigkeiten im Beruf bzw. zu Hause (z.B. weil Sie sich niedergeschlagen oder ängstlich fühlten)

(Bitte wählen Sie in jeder Zeile nur eine Antwort aus.)

SCHWIERIGKEITEN	Ja	Nein
a. Ich konnte nicht so lange wie üblich tätig sein	<input type="radio"/>	<input type="radio"/>
b. Ich habe weniger geschafft als ich wollte	<input type="radio"/>	<input type="radio"/>
c. Ich konnte nicht so sorgfältig wie üblich arbeiten	<input type="radio"/>	<input type="radio"/>

6. Wie sehr haben Ihre körperliche Gesundheit oder seelischen Probleme in den **vergangenen 4 Wochen** Ihre normalen Kontakte zu Familienangehörigen, Freunden, Nachbarn oder zum Bekanntenkreis beeinträchtigt?

(Bitte wählen Sie nur eine Antwort aus.)

- Überhaupt nicht
- Etwas
- Mässig
- Ziemlich
- Sehr

7. Wie stark waren Ihre Schmerzen in den **vergangenen 4 Wochen**?

(Bitte wählen Sie nur eine Antwort aus.)

- Ich hatte keine Schmerzen
- Sehr leicht
- Leicht
- Mässig
- Stark
- Sehr stark



25394

8. Inwieweit haben die **Schmerzen** Sie in den **vergangenen 4 Wochen** bei der Ausübung Ihrer Alltagstätigkeiten zu Hause und im Beruf behindert?

(Bitte wählen Sie nur eine Antwort aus.)

- Überhaupt nicht
- Ein bisschen
- Mässig
- Ziemlich
- Sehr

9. In diesen Fragen geht es darum, wie Sie sich fühlen und wie es Ihnen in den **vergangenen 4 Wochen** gegangen ist. Geben Sie bitte für jede Frage diejenige Antwort die Ihrem Befinden am ehesten entspricht, indem Sie in jeder Zeile den entsprechenden Kreis ausmalen/ankreuzen.

Wie oft waren Sie in den **vergangenen 4 Wochen**

(Bitte wählen Sie in jeder Zeile nur eine Antwort aus.)

BEFINDEN	Immer	Meistens	Ziemlich oft	Manchmal	Selten	Nie
a. ... voller Schwung?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. ... sehr nervös?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. ... so niedergeschlagen, dass Sie nichts aufheitern konnte?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. ... ruhig und gelassen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. ... voller Energie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. ... entmutigt und traurig?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. ... erschöpft?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. ... glücklich?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. ... müde?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



25394

10. Wie häufig haben Ihre **körperliche Gesundheit oder seelischen Probleme** in den **vergangenen 4 Wochen** Ihre Kontakte zu anderen Menschen (Besuche bei Freunden, Verwandten usw.) beeinträchtigt?

(Bitte wählen Sie nur eine Antwort aus.)

- Immer
- Meistens
- Manchmal
- Selten
- Nie

11. Inwieweit trifft **jede** der folgenden Aussagen auf Sie zu?

(Bitte wählen Sie in jeder Zeile nur eine Antwort aus.)

AUSSAGEN	Trifft ganz zu	Trifft weitgehend zu	Weiss nicht	Trifft weitgehend nicht zu	Trifft überhaupt nicht zu
a. Ich schein etwas leichter als andere krank zu werden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Ich bin genauso gesund wie alle andern, die ich kenne	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Ich erwarte, dass meine Gesundheit nachlässt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Ich erfreue mich ausgezeichneter Gesundheit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



25394

Körperliche Funktionsfähigkeit (HAQ)

Die folgenden Fragen betreffen Einschränkungen der Lebensqualität durch Ihre Krankheit. Sie sind für die medizinische Betreuung sehr wichtig.

- Bitte kreuzen Sie jene Antwort an, die am besten Ihre Möglichkeiten in der **vergangenen Woche** beschreibt.

	ohne Schwierigkeiten	mit leichten Schwierigkeiten	mit grossen Schwierigkeiten	unmöglich
Ankleiden und Körperpflege				
Können Sie				
- sich selber ankleiden, Kleider zuknöpfen und Schuhe binden?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- Ihre Haare waschen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aufstehen				
Können Sie				
- von einem Stuhl ohne Armlehne aufstehen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- ins Bett gehen und aufstehen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Essen				
Können Sie				
- das Fleisch mit dem Messer schneiden?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- ein gefülltes Glas zum Mund führen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- einen Milchkarton (Tetrapack) von Hand öffnen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gehen				
Können Sie				
- auf ebener Strasse gehen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- Treppen steigen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Bitte kreuzen Sie die **Hilfsmittel** an, die Sie gewöhnlich für diese Tätigkeiten benutzen:

- | | |
|---------------------------------|-----------------------------------------------------------------------------------------------------|
| <input type="radio"/> Gehstock | <input type="radio"/> Hilfsmittel zum Ankleiden (langer Schuhlöffel, Knöpfer, Strumpfanzieher usw.) |
| <input type="radio"/> Krücken | <input type="radio"/> Spezialstuhl |
| <input type="radio"/> Rollstuhl | <input type="radio"/> Andere |

- Bitte kreuzen Sie die Tätigkeiten an, bei denen Sie gewöhnlich die **Hilfe einer anderen Person** benötigen :

- | | |
|-----------------------------------------------|-----------------------------|
| <input type="radio"/> Ankleiden, Körperpflege | <input type="radio"/> Essen |
| <input type="radio"/> Aufstehen | <input type="radio"/> Gehen |



- Bitte kreuzen Sie jene Antwort an, die am besten Ihre Möglichkeiten in der **vergangenen Woche** beschreibt:

	ohne Schwierigkeiten	mit leichten Schwierigkeiten	mit grossen Schwierigkeiten	unmöglich
Körperpflege Können Sie				
- sich ganz waschen und abtrocknen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- ein Vollbad nehmen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- auf die Toilette gehen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heben Können Sie				
- einen 2 kg schweren Gegenstand (z.B. einen Sack Kartoffeln) über Kopfhöhe heben bzw. herunternehmen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- sich bücken, um ein Kleidungsstück vom Fussboden aufzuheben?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Greifen und Öffnen Können Sie				
- eine Autotüre öffnen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- ein Konfitürenglas öffnen, welches schon einmal offen war?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- einen Wasserhahn auf- und zudrehen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Andere Tätigkeiten Können Sie				
- Einkaufen gehen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- in ein Auto ein- und aussteigen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- Haushaltarbeiten (z.B. Staubsaugen) oder Gartenarbeiten verrichten?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Bitte kreuzen Sie die **Hilfsmittel** an, die Sie gewöhnlich für diese Tätigkeiten benutzen:

- | | |
|----------------------------------------------|-----------------------------------------------------------------------------------|
| <input type="radio"/> Toiletten-Sitzerhöhung | <input type="radio"/> Sitz für Badewanne |
| <input type="radio"/> Schraubdeckelöffner | <input type="radio"/> Hilfsmittel zum Greifen (z. B. Greifzange, Schlüsselgriffe) |

- Bitte kreuzen Sie die Tätigkeiten an, bei denen Sie gewöhnlich **die Hilfe einer anderen Person** benötigen:

- | | |
|------------------------------------|--------------------------------------------------------|
| <input type="radio"/> Körperpflege | <input type="radio"/> Greifen und Öffnen |
| <input type="radio"/> Heben | <input type="radio"/> Einkaufen oder Haushaltsarbeiten |



25394

Symptome Arthritis (RADAI)

Die nachfolgenden Skalen gehen immer von ,0' bis ,10'. Wenn Ihre Arthritis z.B. überhaupt nicht aktiv ist oder Sie keine Schmerzen haben, kreuzen Sie bitte das Kästchen mit der ,0' an. Ist Ihre Arthritis extrem aktiv oder sind die Schmerzen unerträglich, kreuzen Sie die ,10' an. Sonst kreuzen Sie eine Zahl dazwischen an.

- 1) Wie aktiv war Ihre Arthritis (entzündliche Gelenkserkrankung) **im allgemeinen** während der **letzten sechs Monate**?

Bitte kreuzen Sie eine Zahl zwischen 0 und 10 an. (☒)

überhaupt nicht aktiv extrem aktiv

- 2) Wie aktiv ist Ihre Arthritis **heute** bezüglich **Druckempfindlichkeit und Schwellung der Gelenke**?

Bitte kreuzen Sie eine Zahl zwischen 0 und 10 an. (☒)

überhaupt nicht aktiv extrem aktiv

- 3) Wie stark ist Ihr **Arthritis - Schmerz heute**?

Bitte kreuzen Sie eine Zahl zwischen 0 und 10 an. (☒)

keine Schmerzen unerträgliche Schmerzen

- 4) Waren Ihre Gelenke steif, als Sie **heute** morgen aufwachten?

nein

ja Wenn ja, wie lange dauerte diese Steifigkeit **heute** morgen? (☒)

weniger als 30 Minuten

30 Minuten bis 1 Stunde

1 - 2 Stunden

2 - 4 Stunden

mehr als 4 Stunden

den ganzen Tag



25394

5) Bitte kreuzen Sie in der untenstehenden Tabelle die **Stärke der Schmerzen** an, die Sie **heute** verspüren. (☒)

	Rechte Seite					Linke Seite			
	kein	leicht	mittelstark	stark		kein	leicht	mittelstark	stark
Schulter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Schulter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ellenbogen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ellenbogen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Handgelenk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Handgelenk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fingergelenke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fingergelenke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hüfte	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Hüfte	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Knie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sprunggelenk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sprunggelenk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zehengelenke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Zehengelenke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6) Bitte kreuzen Sie die **Stärke der Schmerzen** an, die Sie **heute** im **Nacken** verspüren.

kein	leicht	mittelstark	stark
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7) Wie beurteilen Sie **heute** Ihren **Gesundheitszustand insgesamt**?

sehr gut schlecht



Geschicklichkeit der Hand (SODA)

	Ausführung (a)			Schwierigkeiten (d)			Schmerz		a+d
	nicht möglich (= 0)	alternativ (= 1)	korrekt (= 4)	viel (= 0)	etwas (= 1)	keine (= 2)	nein (= 0)	ja (= 1)	
1. Satz schreiben	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
2. Briefumschlag aufheben	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3. Münzen aufheben	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4. Telefonhörer halten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
5. Tube öffnen									
Hand Tube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Hand Deckel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
6. Zahnpasta ausdr.									
Hand Zahnb.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Hand Tube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7. Löffel + Messer									
Hand Löffel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Hand Messer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
8. Hemd knöpfen									
Hand Knopf	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Hand Loch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
9. Thermoskanne öffnen									
Hand Henkel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Hand Deckel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10. Wasser eingiessen									
Hand Glas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Hand Henkel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11. Hände waschen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
12. Hände trocknen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Total:									

Bemerkungen:
