large scale of study[2)]. In daily practice or observation, "patient's VAS" is usually used without specifying whether it refers to PtGA or PtGH. The factors which influence the change in PtGA or PtGH have not been demonstrated concomitantly in daily practice.

Objectives: We investigated the difference between PtGA and PtGH, especially each change obtained after intensification of treatment in 12 weeks and identified the factors that influence on each measurement in RA patients.

Methods: Consecutive patients were enrolled to this retrospective study at our hospital from October 2017 to September 2018. Demographic and clinical data at enrollment as well as treatment regimens were collected by review of medical charts. At first, we examined the baseline data and the changes in 12 weeks of PtGA and PtGH in their relations. The second, we divided those patients into two subsets according to medications intensified by methotrexate (MTX) subset and biological disease-modifying antirheumatic drugs (DMARDs) or janus kinase (JAK) inhibitor (B/J) subset. We compared the difference of the changes in PtGA from the baseline to 12 weeks (ΔPtGA) and those in PtGH (ΔPtGH) between MTX subset and B/J subset. Finally, the logistic regression analysis was performed to identify factors that differently influence for each scale in 12 weeks.

Results: Consecutive 38 RA patients were enrolled. Women were 76%. The median age [IQR] was 66.5 [55-75] years old. Disease duration was 2.5 [1-15] years. DAS28 was 2.61 [2.02-3.17]. SDAI was 16.8 [11.1-24.6] and CDAI was 15.3 [9.38-23.9]. MTX was initiated or increased in 24 patients (63%). The baseline median dose of MTX was 6 [3.5-8] mg/week. Biologics or JAK inhibitor were initiated in 8 patients (21%); tocilizumab (n=5), golimumab (n=1), abatacept (n=1) and tofacitinib (n=1). Other DMARDs were used in 6 patients (16%). ΔPtGH in 12 weeks was -1.68 (p<0.01), and ΔPtGA in 12 weeks was -2.22 (p<0.01). ΔPtGH and ΔPtGA correlated significantly (r=0.785, p<0.01). ΔPtGA in MTX subsets was not different from that in B/J subsets in (p=0.50) and ΔPtGH was not either (p=0.57). No significant improving factor in ΔPtGA was identified, whereas, woman (p<0.05) and usage of steroid (p<0.01) were improving factors in ΔPtGH.

Conclusion: Intensification of treatment significantly improved in both ΔPtGA and ΔPtGH but we need to pay attentions that there were different improving factors between these two patient's measuremet.

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AB0281 UTILIZATION OF SMART PHONE APPLICATION TO ASSESS THE DISEASE OUTCOMES IN RHEUMATOID ARTHRITIS: SMART- RA STUDY

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Background: Rheumatoid arthritis (RA) is a chronic inflammatory disorder which if not managed properly leads to joint destruction, disability, poor quality of life and premature mortality. Disease modifying antirheumatic drugs (DMARDs) have considerably improved disease outcome in RA. However, poor patient compliance significantly limits the benefits that could be accrued from DMARDs. In a technology driven era, with more people having access to smart phones, unique opportunities exist for use of phone-based technologies to improve patient care in chronic diseases. This study aims to investigate whether the use of HealthCius smart phone application for self management can influence quality of life for patients with RA and improve inflammatory disease activity.

Objectives: To investigate the impact of smart phone application (HealthCius) on inflammatory disease activity and quality of life in RA.

Methods: 38 RA patients fulfilling the 2010 Rheumatoid Arthritis Classification Criteria were recruited. Subjects were randomized into 2 groups. First, having access to a smart phone were assigned to the intervention group using the Healthcius application (n=23) and second, the control group not using the application (n=15). The patients in two groups received standard treatment of RA. The application was designed after obtaining feedback from health care providers, patient counselors and RA patients using a questionnaire. To the patients, the app was their individual treatment plan. It helped them comply with the plan by providing an easy to refer checklist, reminders, alerts and a visual dashboard of their progress through the day. The app served as the doctor's virtual assistant inside the patient's smart phone. For the doctor, it was a live dashboard of all patients and their real time compliance levels. The data reported by the patients was available to the doctor in the form of time sliced charts and trend lines. Therefore, this app is designed to leverage technology to shift the patients' focus every day on to their treatment plan thereby driving up compliance and better health outcomes.

Outcome measures included erythrocyte sedimentation rate (ESR), C-Reactive protein (CRP), disease activity score (DAS28) and health assessment questionnaire (HAQ-DI) at baseline and at 12 weeks.

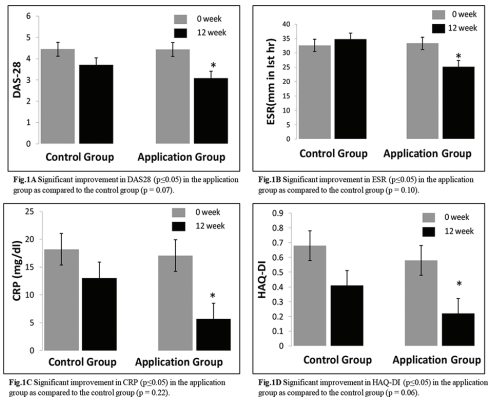

Fig.1A Significant improvement in DAS28 (p≤0.05) in the application group as compared to the control group (p = 0.07).
Fig.1B Significant improvement in ESR (p≤0.05) in the application group as compared to the control group (p = 0.10).
Fig.1C Significant improvement in CRP (p≤0.05) in the application group as compared to the control group (p = 0.22).
Fig.1D Significant improvement in HAQ-DI (p≤0.05) in the application group as compared to the control group (p = 0.06).

Figure 1

Results: Baseline characteristics were similar between groups with no significant difference. There was a significant difference between the control and intervention group for DAS28 (p <0.05), ESR (p≤0.05), CRP (p≤0.05) and HAQ-DI (p≤0.5) after 12 weeks in favor of smart phone application. Analysis within the groups revealed significant improvement in DAS28 (p<0.05) (Fig.1A), ESR (p=0.01) (Fig.1B), CRP (p=0.001) (Fig.1C) and HAQ-DI (p=0.01) (Fig.1D) in the application group as compared to control group. Impact of DMARDs usage was also evaluated at the end of the study and it was found that the average drug usage of DMARDs was more in control group than the intervention group.

Conclusion: The study suggested that there was greater improvement in inflammatory disease activity and quality of life in smart phone application assisted RA patients suggesting that smart phone technology can be used to leverage health benefits in RA.

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AB0282 SYSTEMATIC REVIEW OF STUDIES REPORTING ON COGNITIVE FUNCTION IN RHEUMATOID ARTHRITISCOMPARED TO THE GENERAL POPULATION

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Background: Rheumatoid arthritis (RA) patients often complain of "brain fog" as a symptom when their disease activity is greater. The exact areas of cognition that this "brain fog" means are not yet understood. Previous studies have found that people with RA have lower cognitive function (CF) than healthy controls and age based population norms. A study by Shin et al which looked at prevalence of cognitive impairment