Telemedicine in rheumatology: high specificity and sensitivity of follow-up virtual video consultations during COVID-19 pandemic

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Abstract

Objective. To evaluate the reliability of virtual video-assisted visits, added to the tight control strategy for inflammatory rheumatic diseases (IRDs), in identifying patients that need treatment adjustment.

Methods. Tightly followed-up adult patients with rheumatoid arthritis, psoriatic arthritis (PsA), ankylosing spondylitis, and systemic lupus erythematosus (SLE) performed a video consultation during COVID19 lockdown and repeated the same rheumatology evaluations through a face-to-face visit within 2-weeks. Sensitivity and specificity of virtual visits for treatment decisions (categorized as unchanged, adjusted/escalate, tapered/discontinued, need for further examinations), and the intraclass correlation coefficient (ICC) for virtually measured disease activity and patient-reported outcomes (PROs) were calculated with 95% confidence interval (95%CI) using face-to-face visits as the reference method.

Results. In 89 out of 106 (84.0%) patients, face-to-face visits confirmed the remotely delivered treatment decision. Video-visiting showed excellent sensitivity (94.1% with 95%CI 71.3%-99.9%) and specificity (96.7%; 95%CI 90.8% to 99.3%) in identifying the need for treatment adjustment due to inadequate disease control. The major driver for the low sensitivity of virtual video consultation (55.6%; 95%CI 21.2%-86.3%) in identifying the need for treatment tapering was SLE diagnosis (OR 10.0; 95%CI 3.1-32.3; $p<0.001$), mostly because of discordance with face-to-face consultation in glucocorticoid tapering. Remotely evaluated PROs showed high reliability (ICC range 0.80 to 0.95) whilst disease activity measures had less consistent data (ICC range 0.50 to 0.95), especially those requiring more extensive physical examination such as in SLE and PsA.

Conclusion. Video-visiting proved high reliability in identifying the need for treatment adjustment and might support the IRDs standard tight-control strategy.

Keywords. Inflammatory arthritis. Rheumatoid Arthritis. Systemic lupus erythematosus. Psoriatic arthritis. Ankylosing spondylitis. Telemedicine. Tight-control. Video-visiting.

Key Messages.

- Researches into reliability of virtual video-assisted consultations in patients with inflammatory rheumatic diseases are lacking.
- Rheumatology virtual video consultations showed high sensitivity and specificity when compared to face-to-face visits.
- Further strategies are needed to improve the accuracy of video-visiting in SLE patients.

INTRODUCTION

Tightly monitoring and adjusting treatment according to disease activity, safety concerns, and comorbidities, in a shared decision-making process, is pivotal to improve outcomes of inflammatory rheumatic diseases (IRDs) [1-4]. Face-to-face consultation represents the standard approach in rheumatology, but telemedicine applications have gained a growing role in the past years and boomed during COVID-19 pandemics allowing rheumatologists to continue caring for patients remotely [5, 6]. However, virtual video-assisted visits are still far from widespread, their application to rheumatology has been only addressed by a small number of studies, and researches into their reliability compared with in-person visits are lacking [6]. Two recent systemic literature reviews independently came to the same conclusion that not enough outcomes information was available about the effectiveness of virtual visits for IRDs [7, 8].

The present study aimed to evaluate the reliability of virtual video-assisted follow-up visits in detecting the need for adjusting treatment due to inadequate disease control in patients affected by IRDs routinely followed up in a tight-control clinical setting.

PATIENTS AND METHODS

Study population

During the first SARS-Cov2 Italian outbreak, from 9 March 2020 to 9 June 2020 our tertiary referral outpatient rheumatology clinic was converted into a telemedicine service due to the lockdown imposed in an attempt to halt the viral spreading. Adult patients, routinely followed up in our tight-control clinics for rheumatoid arthritis (RA), psoriatic arthritis (PsA), ankylosing spondylitis (AS), and systemic lupus erythematosus (SLE), who consecutively performed a virtual video-assisted consultation during the last 2 weeks of lockdown prospectively completed the rheumatology evaluation through a face-to-face visit within 2 weeks. Four consultant rheumatologists (AF, MC, EC, IC) delivered both the virtual consultations (no previous experience) and the face-to-face visits to the same patients already entrusted to their care. The Ethics Committee of the Azienda Ospedaliero Universitaria of Cagliari approved the present study (protocol n. 8557), and all patients provided written informed consent to participate. The remotely delivered consultations were performed using a freely available web-based video-conferencing platform supported by smartphone and desktop.

Covariates and criterion standards for disease activity

Demographic details, disease activity measures, patient-reported outcomes (PROs), laboratory results, and ongoing medications were collected during the video-assisted and face-to-face consultations **(Table 1)**. During video-visiting, patients were coached by physicians through self-assessment of swollen (SJC) and tender joint counts (TJC) applying a prespecified standardized procedure to increase reliability [9]. Patients were instructed on what is inflamed SJs and TJs and how to assess them for detecting softness, elasticity, and pain; afterward, they were asked to show their joints on video and perform a physician-driven examination of them reporting if joints were painful,

swollen, or tender. In case of cutaneous rash, and other inspectable signs, patients were asked to show them on video for physician assessment. Laboratory results were collected during virtual visits, via e-mail or simply by showing them on video, and taken into account for both the telemedicine and the face-to-face evaluations. The criteria to define active disease with high impact were set as DAS28>3.2 and RAID>4 for RA, DAPSA>14 and PSAID>4 for PsA, BASDAI≥4 and ASDAS≥2.1 for AS, clinical SELENA-SLEDAI>0 (excluding serologic abnormalities) and LIT>10 for SLE. However, the individually-based treatment decision was not exclusively grounded on criteria for disease activity and PROs but also took into account patient history (e.g. long-lasting disease, amount of established organ damage, previous treatment), as well as safety concerns, comorbidities, and patients expectations.

Outcome of interest

Treatment decision at the end of the visits was categorized in four classes: i) unchanged (i.e. enough information collected to make a decision; continue with the same treatment); ii) adjusted treatment for inadequate disease control (i.e. enough information; new prescription or increasing dosage of any DMARDs, glucocorticoids or NSAIDs – the latter only for PsA and AS); iii) treatment tapering/cessation for persistently adequate disease control (i.e. enough information; increase time-intervals administration, reduce the dosage or discontinue any DMARDs or glucocorticoids); iv) need further examinations (i.e. no enough information; require a physical examination, new blood exams or imaging to better assess disease activity or safety issue - excluding screening for biologics). Adverse events were also recorded. The sensitivity and specificity of virtual consultations in identifying the need for adjusting treatment due to inadequate disease activity control was the primary outcome of the study, whereas other treatment decisions were secondary outcomes. Patients were not involved in the audit planning and design but were asked to assess the impact and satisfaction with the remotely delivered

consultations by completing an anonymous, self-administered, web-based, 5-point Likert scale questionnaire.

Statistics

The sensitivity and specificity of virtual consultations were calculated using face-to-face visits as the reference method. A forward logistic regression model was built to identify factors independently associated with a modification of the remotely delivered treatment decision during the face-to-face consultation. Age, gender, education level, working status, diagnosis, disease duration, ongoing treatment, treatment duration, prednisone use, and examining physician were included in the model. The odds ratio (OR) with 95% confidence interval was calculated. P-value <0.05 was considered significant. The intraclass correlation coefficient (ICC) single measure was used in subgroup analysis for each iRDs to assess the reliability (ICC < 0.5 poor, 0.5-0.75 moderate, 0.75-0.90 good, > 0.90 excellent) of disease activity measures and PROs performed during video-visiting and face-to-face consultations.

RESULTS

Overall, 106 (25 RA, 30 PsA, 22 AS, 29 SLE) out of 120 patients who performed a virtual video-assisted consultation between 25 May and 9 June 2020, agreed to participate. Demographics and treatment information are reported in **Table 2**. The high prevalence of patients treated with biologic and targeted synthetic DMARDs, and with prednisone in the case of SLE, is related to their referral to our tertiary level tight-control clinics, which collects those patients that need frequent monitoring for active disease, evaluating the response to treatment changes or supervising steroid-tapering.

Face-to-face visits confirmed the remotely delivered treatment decisions in 89 out of 106 (84.0%) **(Figure 1)**. Virtual consultations showed 94.1% (95%CI 71.3% to 99.9%) sensitivity and 96.7% specificity (95%CI 90.8% to 99.3%) in detecting the need for adjusting treatment due to inadequate disease activity

control using face-to-face visits as the gold standard **(Supplementary Table S1, available at *Rheumatology* online)**. Excellent sensitivity (91.9%; 95%CI 78.1% to 98.3%) and specificity (92.8%; 95%CI 83.9% to 97.6%) were found also in detecting patients who do not need treatment modification. Sensitivity dropped to 55.6% (95%CI 21.2% to 86.3%) for treatment tapering/cessation and to 36.4% (95%CI 10.9% to 66.2%) for the need of further examinations whilst specificity (93.8% with 95%CI 87.0% to 97.7% and 95.8% with 95%CI 89.6% to 98.8%, respectively) maintained excellent values **(Table 3)**. Drug adverse events were recorded during 3 virtual visits (i.e. site injection pain, headache, vertigo) and confirmed during standard consultations; no adverse events occurred between visits.

Having SLE (OR 10.0; 95% CI 3.1 to 32.3; $p<0.001$) was independently associated with receiving a different treatment decision during the face-to-face consultation, mostly because of discordance in 6 out of 12 prescriptions of treatment tapering (**Supplementary Table S2, available at *Rheumatology* online)**. Disagreement between visits was mainly related to the low accuracy of the virtual approach in identifying clinical signs that may be revealed only through physical examination and in discriminating fibromyalgia from active disease.

Disease activity measures showed heterogeneous results in terms of the agreement between virtual and face-to-face consultations, ranging from moderate to excellent reliability (**Table 4**). PROs measured at the time of virtual visits and face-to-face consultations showed good to excellent agreement (**Table 4**).

Overall, 101 patients answered the questionnaire reporting a high level of satisfaction with the telemedicine service, the virtual consultation, and the established patient-doctor relationship (**Figure 2**).

DISCUSSION

This study demonstrated that virtual video-assisted rheumatology consultations have very high sensitivity and specificity in identifying the need for adjusting treatment in patients affected with IRDs routinely followed up in a tight-control out-patient clinical setting. Such results provide the so far missing evidence on the valuable role of video-visiting, when applied in support of the standard approach, to increase the number of follow-up rheumatology consultations and favor tight monitoring for patients with IRDs [10] by limiting the number of hospital visits, thus protecting from spreading infections [11]. Further advantages of tele-rheumatology include reducing travel time, related stress, and costs. Moreover, we confirmed the generally reported high levels of acceptance and satisfaction with telemedicine [12-13].

Along with these observations, we provided novel evidence on the high reliability of PROs in remotely delivered consultations, but less consistent data on disease activity measures, especially those requiring more extensive physical examination such as in SLE and PsA. Rheumatologists strongly rely on physical examination to get a better evaluation of disease activity measures and the patient's general state of health [13]. The vast majority of patients in our cohort (78%) agreed that is important to get a physical examination at the rheumatology clinic. Considering the low accuracy of some disease activity measures when virtually assessed, it could be misleading to rely exclusively on them to remotely take treatment decisions. Nevertheless, integrating patients' opinions with physician-driven joint counts self-assessment was effective to overcome telemedicine barriers to physical examination, resulting in proper shared decisions for patients with IRDs. In this cohort, the only noteworthy exception to the excellent reliability of video-visiting was represented by SLE, for which virtual visits

have shown moderate sensitivity in identifying those patients eligible for tapering of daily prednisone dose. Considering the impact of prednisone on damage accrual [14], the extent to which video-visiting can be implemented in patients with SLE under tight monitoring will have to be further investigated in larger studies.

This study has some limitations. The major one is that both virtual and face-to-face visits were performed by the same observer, which could have led to a potential confirmation bias and suggests caution in interpreting study results. However, changing the observer between visits would have introduced an additional confounding factor (i.e. inter-observer reliability) and hampered the direct comparison between video-assisted and face-to-face visits Therefore, more than one physician was enrolled as an independent observer trying to minimize the potential effect of the confirmation bias by accordingly adjusting the regression model. The small IRDs subgroups prevented an in-depth disease-specific analysis, which is another study limitation.

In conclusion, video-visiting should not replace the standard approach but might be effectively used in supports of the tight-control strategy to increase the number of consultations reducing out-patient visits, and identifying the need for adjusting treatment in routinely followed up patients affected with IRDs. Although our findings cannot be generalized to different contexts, and especially to first visits, this evidence could be extremely useful in setting up tele-rheumatology clinics during COVID19 outbreaks, when local measures of social distancing are in effect, or even beyond pandemics in case a patient cannot attend the face-to-face visit or whenever the capacity of rheumatology services is severely reduced.

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Data availability statement*:* T*he data underlying this article will be shared at reasonable request to the corresponding author.*

Table 1. Detailed report of patient's characteristics and variables collected during remotely delivered consultations and face-to-face visits.

Disease	Video-assisted Consultation
Rheumatoid Arthritis	- **Patient's characteristics** (age, disease duration, gender, education level, employment status, treatment duration) - **Disease activity measures** (sTJC and sSJC during video-visiting, TJC and SJC during face-to-face visits, DAS28, PhGA) - **PROs** (RAID, PtGA) - **Lab results** (cell blood count, urinalysis, LFT, creatinine, ESR, CRP) - **Medications** (cDMARDs, bDMARDs, tsDMARDs, GCs dose, NSAIDs) - **Treatment decision**
Psoriatic Arthritis	- **Patient's characteristics** (age, disease duration, gender, education level, employment status, treatment duration) - **Disease activity measures** (sTJC and sSJC during video-visiting, TJC and SJC during face-to-face visits, DAPSA, PhGA) - **PROs** (PSAID12, PtGA activity and pain) - **Lab results** (cell blood count, urinalysis, LFT, creatinine, ESR, CRP) - **Medications (**cDMARDs, bDMARDs, tsDMARDs, GCs dose, NSAIDs) - **Treatment decision**
Ankylosing Spondylitis	- **Patient's characteristics** (age, disease duration, gender, education level, employment status, treatment duration) - **Disease activity measures** (ASDAS, PhGA) - **PROs** (BASDAI, PtGA) - **Lab results** (cell blood count, urinalysis, LFT, creatinine, ESR, CRP) - **Medications** (cDMARDs, bDMARDs, tsDMARDs, GCs dose, NSAIDs) - **Treatment decision**
Systemic Lupus Erythematosus	- **Patient's characteristics** (age, disease duration, gender, education level, employment status, treatment duration) - **Disease activity measures** (SELENA - SLEDAI, PGA) - **PROs** (LIT, PtGA) - **Lab results** (cell blood count, urinalysis, C3 and C4 complement fraction, anti-dsDNA, LFT, creatinine, ESR, CRP) - **Medications** (immunosuppressants, biologics, antimalarial, GCs dose) - **Treatment decision**

sTJC: self-assessed tender joint count. sSJC: self-assessed swollen joint count. DAS28: Disease activity score 28. PhGA: physician global assessment (0-10). RAID: rheumatoid arthritis impact of disease. PtGA: patient global assessment (0-10). PSAID 12: Psoriatic Arthritis Impact of Disease 12-item. DAPSA: Disease Activity Index for Psoriatic Arthritis. BASDAI: Bath Ankylosing Spondylitis Disease Activity Index. ASDAS: Ankylosing Spondylitis Disease Activity Scores. SLEDAI: systemic lupus erythematosus disease activity index. PGA: physician global assessment (0-3). LIT: lupus impact tracker. LFT: liver function test. ESR: erythrocyte sedimentation rate. CRP: c-reactive protein. cDMARDs: conventional disease-modifying antirheumatic drugs. bDMARDs: biologic DMARDs. tsDMARDs: targeting synthetic DMARDs. GCs: glucocorticoids.

Table 2. Demographics and clinical characteristics of enrolled patients and details of virtual visits and face-to-face consultations.

	iRDs	RA	PsA	AS	SLE
Patients	106	25	30	22	29
Gender (M)	47 (44.3%)	8 (32.0%)	21 (70.0%)	16 (72.7%)	2 (6.9%)
Age, mean (SD)	45.4 (12.3)	51.2 (12.8)	47.0 (9.5)	45.1 (11.9)	39.0 (12.4)
Disease duration, mean (SD)	11.0 (8.1)	13.1 (9.0)	8.9 (8.6)	11.4 (8.4)	10.9 (6.2)
Education level					
5 years	4 (3.8%)	0	2 (6.7%)	2 (9.1%)	0
8 years	28 (26.4%)	7 (28.0%)	9 (30.0%)	7 (31.8%)	5 (17.2%)
13 years	47 (44.3%)	14 (56.0%)	9 (30.0%)	7 (31.8%)	17 (58.6%)
18 years or more	27 (25.5%)	4 (16.0%)	10 (33.3%)	6 (27.3%)	7 (24.1%)
Employment					
Employed	83 (78.3%)	18 (72.0%)	24 (80.0%)	21 (95.5%)	20 (69.0%)
Unemployed	18 (17.0%)	4 (16.0%)	5 (16.7%)	1 (4.5%)	8 (27.6%)
Retired	5 (4.7%)	3 (12.0%)	1 (3.3%)	0	1 (3.4%)
Treatment					
Prednisone	40 (37.7%)	7 (28.0%)	4 (13.3%)	1 (4.5%)	28 (96.5%)
NSAIDs	27 (25.5%)	12 (48.0%)	12 (40.0%)	3 (13.5%)	0
Hydroxychloroquine	25 (23.6%)	0	0	0	25 (86.2%)
cDMARDs	54 (50.9%)	13 (52.0%)	16 (53.3%)	1 (4.5%)	24[a] (82.8%)
bDMARDs	67 (63.2%)	17 (68.0%)	21 (70.0%)	22 (100%)	7[b] (24.1%)
tsDMARDs	5 (4.7%)	5 (20.0%)	0	0	0
Treatment duration[c], median (IQR)	12 (4 – 36)	12 (6 – 27)	31 (6 – 48)	41 (25-58)	6 (6 - 6)
Virtual visits outcome					
Treatment unchanged	67 (63.2%)	19 (76.0%)	17 (56.7%)	20 (91.0%)	11 (38.0%)
Treatment adjusted	19 (17.9%)	6 (24.0%)	9 (30.0%)	1 (4.5%)	3 (10.3%)
Tapering/cessation	11 (10.4%)	0	1 (3.3%)	0	10 (34.5%)
Need further examinations	9 (8.5%)	0	3 (10.0%)	1 (4.5%)	5 (17.2%)
Adverse events	3	0	0	1	2
Face-to-face visits outcome					
Treatment unchanged	69 (65.1%)	19 (76.0%)	19 (63.4%)	20 (91.0%)	11 (38.0%)
Treatment adjusted	17 (16.0%)	4 (16.0%)	9 (30.0%)	1 (4.5%)	3 (10.3%)
Tapering/cessation	9 (8.5%)	1 (4.0%)	1 (3.3%)	0	7 (24.1%)
Need further examinations	11 (10.4%)	1 (4.0%)	1 (3.3%)	1 (4.5%)	8 (27.6%)
Adverse events	3	0	0	1	2
Discordant visit outcomes	17 (16.0%)	3 (12.0%)	2 (6.7%)	0	12 (41.4%)

M: Male. SD: standard deviation. IQR: interquartile range. Values are the number of patients, values in brackets are percentages. a: immunosuppressants. b: anti-BAFF or anti-CD20 agents. c: duration of the current monotherapy or combination therapy expressed in months.

Table 3. Accuracy of virtual visits in determining treatment decisions using face-to-face consultation as the reference method.

Virtual-visit outcomes	**Sensitivity** (95%CI)	**Specificity** (95% CI)	**Accuracy** (95% CI)	**PPV** (95%CI)	**NPV** (95%CI)
Unchanged	91.9% (78.1% to 98.3%)	92.8% (83.9% to 97.6%)	92.5% (85.7% to 96.7%)	87.2% (74.5% to 94.1%)	95.5% (87.8% to 98.4%)
Adjusted	94.1% (71.3% to 99.9%)	96.7% (90.7% to 99.3%)	96.3% (90.9% to 99.0%)	84.2% (63.5% to 94.2%)	98.9% (93.0% to 99.8%)
Tapering/cessation	55.6% (21.2% to 86.3%)	93.8% (87.0% to 97.7%)	90.6% (83.3% to 95.4%)	45.5% (24.0% to 68.8%)	95.8% (91.6% to 97.9%)
Need further exam	36.4% (10.9% to 66.2%)	95.8% (89.6% to 98.8%)	89.6% (82.2% to 94.7%)	50.0% (22.5% to 77.5%)	92.9% (89.3% to 95.3%)

PPV positive predictive value. NPV: negative predictive value.

Table 4. Agreement between remotely delivered and face-to-face consultations in scoring disease activity indices and patient-reported outcomes.

	Virtual Visit	Face-to-Face visit	ICC single measure (95%CI)
Rheumatoid Arthritis			
RAID	3.2 (1.9 – 5.7)	3.1 (1.9 – 6.7)	0.95 (0.88 to 0.98)
sTJC 28	1 (0 – 2.2)	1 (0 – 2.0)	0.76 (0.52 to 0.88)
sSJC 28	0 (0 – 2)	0 (0 – 0.3)	0.84 (0.66 to 0.92)
DAS28	3 (2.3 -3.7)	2.8 (2.3 – 3.7)	0.90 (0.79 to 0.96)
PtGA (0-10)	2.6 (1.0 – 5.0)	3.0 (0.4 – 5.8)	0.97 (0.94 to 0.99)
PhGA (0-10)	1 (0.5 – 2.5)	0.5 (0 – 2.0)	0.86 (0.68 to 0.94)
Psoriatic Arthritis			
PsAID12	2.3 (1.0 – 4.2)	3.0 (1.2 – 5.3)	0.83 (0.67 to 0.92)
sTJC68*	1 (0 – 4)	0 (0 - 2)	0.54 (0.23 to 0.75)
sSJC66*	0 (0 – 1)	0 (0 - 0)	0.51 (0.18 to 0.74)
DAPSA	5.8 (1.7 – 15.3)	3.1 (1.7 – 7.6)	0.50 (0.18 to 0.73)
PtGA (0-10)	2.3 (0.8 – 4.5)	4.0 (1.3 - 7.1)	0.85 (0.63 to 0.94)
PhGA (0-10)	1.0 (0 – 2.2)	0 (0 – 1.0)	0.80 (0.70 to 0.87)
Ankylosing spondylitis			
BASDAI	2.4 (1.2 – 3.6)	2.5 (1.5 – 4.4)	0.94 (0.85 to 0.97)
ASDAS	1.6 (0.6 – 2.2)	1.7 (0.7 – 2.2)	0.96 (0.87 to 0.98)
PtGA (0-10)	2 (0 – 2.5)	3 (1 – 4)	0.90 (0.76 to 0.96)
PhGA (0-10)	0 (0 -1)	0 (0 - 1)	0.98 (0.97 to 0.99)
Systemic Lupus Erythematosus			
LIT	26.3 (7.5 – 35.0)	22.5 (6.9 – 45.0)	0.90 (0.79 to 0.96)
SELENA-SLEDAI	2 (2 – 4)	2 (2 – 4)	0.78 (0.58 to 0.89)
PtGA (0-10)	2.3 (0 – 3.4)	2.1 (0 – 4.4)	0.82 (0.62 to 0.92)
PGA (0-3)	0.4 (0.2 – 0.6)	0.4 (0.1 – 0.7)	0.66 (0.39 to 0.83)

sTJC: self-assessed tender joint count. sSJC: self-assessed swollen joint count. DAS28: Disease activity score 28. PhGA: physician global assessment (0-10). RAID: rheumatoid arthritis impact of disease. PtGA: patient global assessment (0-10). PSAID 12: Psoriatic Arthritis Impact of Disease 12-item. DAPSA: Disease Activity Index for Psoriatic Arthritis. BASDAI: Bath Ankylosing Spondylitis Disease Activity Index. ASDAS: Ankylosing Spondylitis Disease Activity Scores. SLEDAI: systemic lupus erythematosus disease activity index. PGA: physician global assessment (0-3). LIT: lupus impact tracker. Reported numbers are median with (interquartile range). * Self-assessed TJC and SJC are compared with physician-assessed TJC and SJC.

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Figure legends

Figure 1. **Comparison of treatment decisions between virtual visits and face-to-face consultations.** The green boxes show the number of visits with a complete agreement between the two methods.

Figure 2. Diverging stacked bar chart reporting patients' satisfaction with the telemedicine service and remotely delivered consultations.

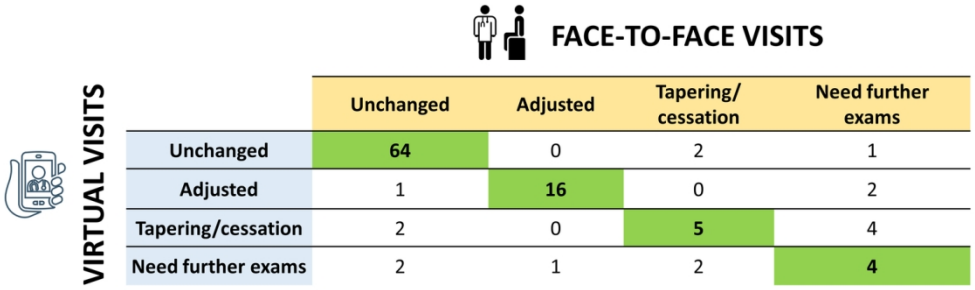

Figure 1. Comparison of treatment decisions between virtual visits and face-to-face consultations. The green boxes show the number of visits with a complete agreement between the two methods.

133x45mm (300 x 300 DPI)

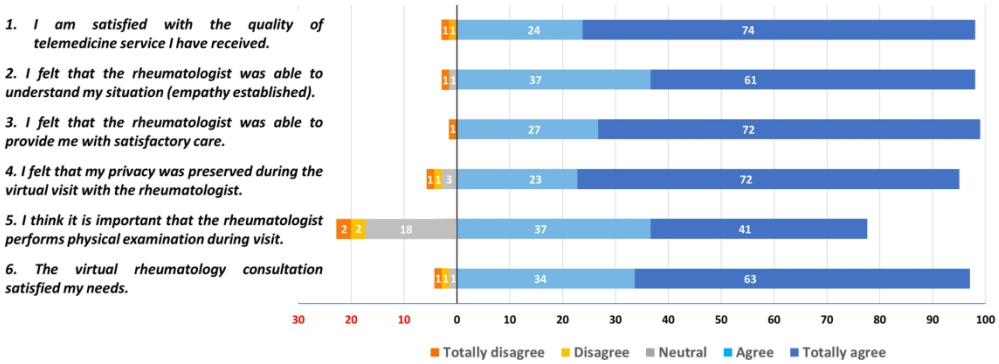

Figure 2. Diverging stacked bar chart reporting patients' satisfaction with the telemedicine service and remotely delivered consultations.

168x64mm (300 x 300 DPI)