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Exploring the general practitioners' perception of the inter-professional care of rheumatoid arthritis patients (GEPRA—II): a qualitative interview study

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Abstract

Background A lack of medication adherence among patients with rheumatoid arthritis (RA) has been reported. Inter-professional collaborations seem essential for an optimal therapeutic management of patients. The aim of this study was to analyse the barriers and facilitators of general practitioners (GPs) for the implementation of collaborative support programmes in RA.

Methods A qualitative semi-structured study using face-to-face or telephone interviews was conducted. Eligible participants included French GPs referring patients with RA. Interviews were audio-recorded and then transcribed. Data were analysed using Braun and Clarke's thematic analysis framework with Nvivo®12 software.

Results Nineteen GPs were interviewed between August 2019 and February 2020. Five themes were identified in the care of their patients with RA. GPs reported being mainly involved in diagnosis and orientation, and frequently asked for pain management and explanation/reformulation of previously given information. They perceived their patients to be adherent to their treatments, although they frequently identified reasons for non-adherence. Regarding their perception of the community-hospital relationship, they sometimes considered it insufficient and expected more immediate interactions. Additionally, most interviewed GPs had no expectation regarding increased collaborations with community pharmacists (CPs) and several GPs were motivated to be more involved in a patient support programme. However, barriers were identified: lack of time and training, and insufficient payment.

Conclusions The implementation of a collaborative patient support programme in RA should be developed taking into account the barriers and facilitators identified by GPs who appeared to be aware of the causes of potential non-adherence, and were particularly interested in receiving more information about the therapeutic monitoring of patients by hospital professionals.

Keywords Qualitative research, Semi-structured interviews, General practitioners, Primary health care, Pharmacists, Interprofessional relations

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Background

Rheumatoid arthritis (RA) is one of the most common musculoskeletal disorders, affecting approximately 0.3% of the French population. Incomplete management of RA leads to significant joint degeneration, functional impairment, morbidity, and increased mortality [1, 2]. Lifetime treatments are usually required to prevent joint damage and preserve bone density [3]. Therapies for RA include conventional disease-modifying antirheumatic drugs (DMARDs), biological DMARDs, and Janus kinase inhibitors (JAKi), as well as symptomatic drugs such as analgesic drugs, non-steroidal anti-inflammatory drugs, and glucocorticoids [4, 5]. Institutional guidelines worldwide recommend the use of a conventional DMARD - methotrexate (MTX), sulfasalazine, or leflunomide - as first-line therapy [4]. There are benefits to the optimal use of MTX, including disease management, reduced need for more expensive biologic therapies, and improved overall patient outcome [6]. Unfortunately, a lack of medication adherence among patients with RA has been reported [7], and more than a third of patients are not taking their treatment [8]. Poor adherence to treatment is a significant barrier to the effective therapeutic management of patients [9]. It can lead to high levels of disease activity and subsequent loss of function of the affected joints [10]. The World Health Organization (WHO) categorizes factors relating to non-adherence into five categories: socioeconomic factors, healthcare system factors, condition-related factors, therapy-related factors, and patient-related factors [7]. For other chronic diseases, inter-professional collaboration seems essential for optimal patient management. For instance, many countries worldwide have started to intensify collaborations between general practitioners (GPs) and community pharmacists (CPs) [11]. A systematic review reported the beneficial effects of collaborative interventions between CPs and GPs [12]. In addition, a meta-analysis including American randomized controlled trials found that medication adherence was significantly improved when pharmacists are integrated as members of healthcare teams [13]. In the past recent years, the pharmacist profession has expanded and includes now more patient-centred services in collaboration with other healthcare professionals [14]. These new services, such as medication review, disease screening and monitoring, and prescribing, are expected to allow close collaboration with GPs [14, 15]. Despite extensive evidence of the effectiveness of CPs on healthcare, inter-professional collaborations between pharmacists and GPs are very often limited, and pharmacists remain an underused resource in primary care in most Western countries [16]. Some authors have suggested that in areas of declining and inadequate medical supply, the frequency of interactions between pharmacists and GPs should increase to ensure adequate patient care and avoid medication-related problems [11]. Nowadays, the main interventions designed to improve patient adherence rarely adjust their modalities to the expectations of healthcare professionals [17]. Moreover, interventions that lacked sufficient collaboration were reported as ineffective [18]. It is crucial for CPs and GPs to have a mutual perception of collaboration to achieve effective inter-professional teamwork [11]. In a previous study, pharmacists were motivated to participate in a programme aiming to improve the medication adherence of patients with RA if they were in collaboration with physicians [19]. In a recent survey (GEPRA-I), GPs expressed an interest in being more involved in a collaborative way in the management of patients with RA [20]. Thus, it is now necessary to investigate the expectations of GPs in this context. The aim of this study was to explore, in a group of GPs, their perceptions of their collaboration with CPs as well as their barriers and facilitators to participate in a collaborative support programme for patients with RA (GEPRA-II).

Methods

Ethics approval

The study was approved by the research ethics committee of the *Université Claude Bernard Lyon 1* (IRB reference no: 2019-05-21-03). Prior to the interviews, participants were informed orally and using a written form about the purpose of the study, the fact that participation was voluntary, and that they could withdraw at any time without consequence. All participants provided written and oral informed consent for the interviews to be recorded, transcribed, and used for research purposes. All interview transcripts were de-identified for analysis and reporting. All interview data during and after the study were stored in a secure and password-protected hospital server which access was limited to the study investigators.

Study design

This study was part of a larger project aiming to establish a pharmaceutical care service for patients with RA in collaboration with GPs. This qualitative study involved in-depth semi-structured interviews with GPs exploring their management practices for patients with RA (GEPRA-II). The criteria for reporting qualitative research (COREQ) checklist (Additional File 1) was used and followed to ensure a transparent framework for reporting qualitative data [21].

Sampling and recruitment

Participants were recruited using convenience sampling in two ways. Firstly, GPs were invited to indicate their willingness to participate in a semi-structured interview (GEPRA-II) at the end of a previously published internet survey on general practice in RA (GEPRA-I) [20].

Secondly, the study was proposed by telephone to all GPs who referred a patient with RA to the *Hôpital Edouard Herriot* (Hospices Civils de Lyon, Lyon, France) during the recruitment period (August 2019 to February 2020). To extend the degree to which results can be generalized and to reflect a wide array of perspectives, efforts were made to recruit a wide sample of GPs in terms of age, gender, working experience, practice setting, and practice type. The recruitment of participants was continued until saturation of arguments was reached, meaning the statements were repeated or confirmed and no new code was identified in at least five subsequent interviews [22]. This judgment was made by the interviewer (ALY) who was concurrently analysing the data while the interviews were proceeding, in agreement with other authors (AJD, HdF).

Data collection

This study involved semi-structured qualitative interviews carried out between August 2019 and February 2020. The interviews were conducted by the first author (ALY; female; PhD student) who is a hospital pharmacist whose research is oriented toward the care pathway of patients with RA, and who has experience in qualitative research. She was trained by experienced members of the research team (AJD and HdF). The interviewer did not know the GPs prior to the interview and participants were not aware of the pharmacist status of the PhD student. All interviews were conducted either over the phone or face-to-face in the GPs' setting, depending on the individual preferences of the participants. Only the participant and the researcher were present during the interviews.

The interviews were audio-recorded and later transcribed verbatim by the first author (ALY) for analysis. Interviews transcripts were not returned to participants for further comment and correction. Field notes complemented the audio recording to report any non-verbal expressions of GPs. A topic guide for conducting the interviews was developed following a review of the literature about RA in general medicine and the previous GEPRA-I study [20]. It was designed by the research team, composed of rheumatologists, GPs, and clinical pharmacists, and comprised: (i) current management practices of GPs in RA; (ii) perceptions of the community-hospital relationship; (iii) involvement in a collaborative patient support programme; and (iv) communication tools (Additional File 2). Before the beginning of the interviews, the guide was tested with one GP. During the interviews, patient medical records were not discussed between GPs and the researcher.

Socio-demographic data were collected at the end of the interviews. The questionnaire contained questions related to the participant's age, gender, practice setting (rural/semi-rural/urban), practice type (single/group/multidisciplinary), duration of practice, frequent participation in training (yes/no) or research projects (yes/no), and activity of resident supervision (yes/no).

Data analysis

Interviews were thematically analysed by two researchers (ALY and AJD). They reviewed each transcript to assess the integrity of the data collected and the accuracy of transcription. Transcribed data were systematically coded and analysed using NVivo® 12 software (QSR International, Melbourne, Victoria, Australia). Thematic content analysis was conducted in line with the inductive reasoning approach following the Braun and Clarke framework for data analysis [23]. This framework provides a systemic stepwise approach for data analysis and outlines 6 phases including 'familiarization with data', 'generation of initial codes', 'searching for themes', 'reviewing themes', 'defining themes', and 'writing up'. The researchers independently coded the first 10 transcripts and then compared results to validate the codes and consolidate the preliminary coding frame. An inter-coder agreement was calculated based on the percentage of overlapping codes. From the preliminary coding frame, main themes were searched. Then, they independently coded all transcripts and ALY, AJD as well as HdF discussed to review and define the themes (Additional File 3).

Transcripts were de-identified and assigned anonymized codes (ex. GP01) to protect participants' identity. In addition, all identifiable information was removed from the selected quotes to ensure confidentiality. Some participant quotes were included in the results section to illustrate theme content (Additional File 4), this code was then provided in square brackets to indicate the participant from whom the quote was extracted.

Data were interpreted in the original language (French) and examples of quotes were then translated into English (by the first author ALY). The second author first (AJD) validated the translation; it was then checked for consistency by an independent person.

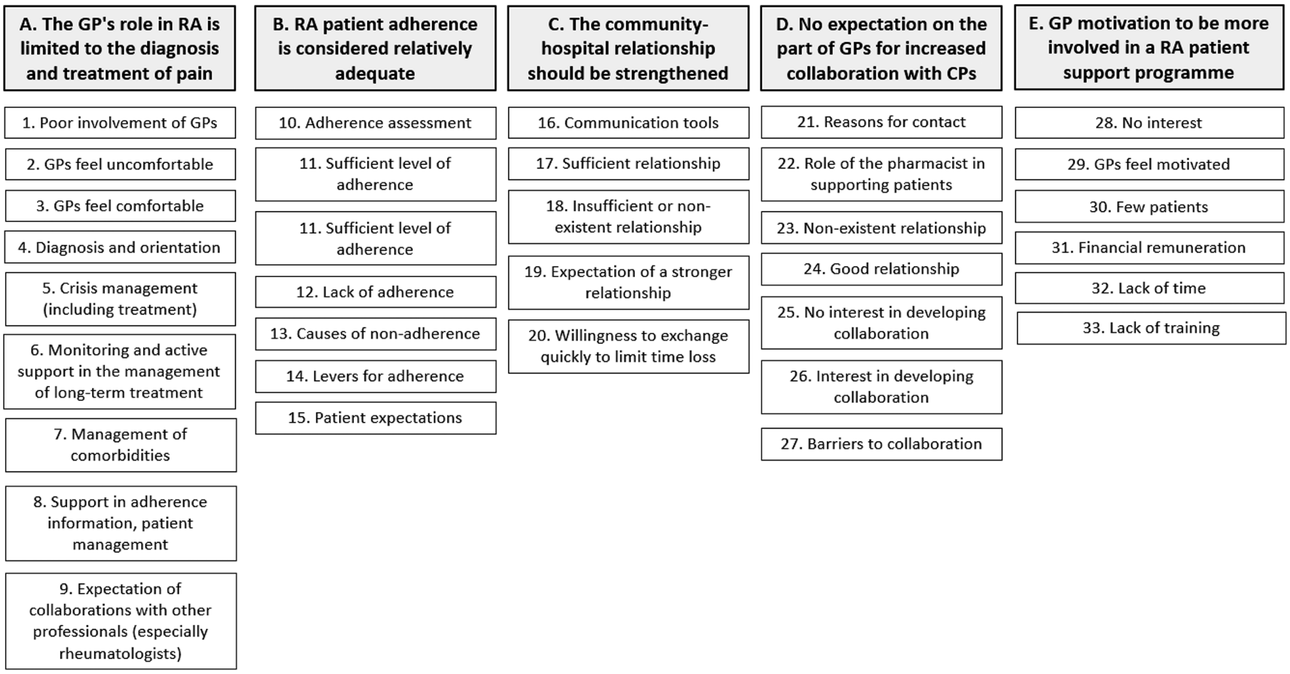
Results

Data saturation was reached after 19 interviews (Additional file 5). Participants were 12 women and 7 men, and their mean (range) age was 49 (34–65) years. Among them, 12 GPs had ≥ 20 years of experience as a GP, 11 worked in an urban setting, and 10 in a group practice setting. The mean (range) interview duration was 23 (15–65) min and no repeat interview was conducted. A total of 12 interviews were conducted face-to-face and 9 were made by telephone (Table 1).

The thematic analysis of the interview recordings generated 33 codes that were grouped in five main themes

Table 1 Characteristics of the interviewed general practitioners

ID	Gender	Age (years)	Practice setting	Practice type	Duration of practice (years)	Interview type	Interview duration (min)	Participation in training	Resident's supervision activity	Participation in research projects
1	Male	65	Semi-rural	Single	39	Face-to-face	18	Yes	Yes	No
2	Female	64	Urban	Single	30	Face-to-face	18	No	No	No
3	Female	37	Rural	Single	7	Face-to-face	16	No	No	No
4	Male	35	Semi-rural	Multidisciplinary	8	Telephone	65	Yes	Yes	No
5	Male	58	Urban	Single	30	Face-to-face	17	No	No	No
6	Male	54	Urban	Group	23	Face-to-face	17	Yes	No	No
7	Female	46	Rural	Multidisciplinary	15	Face-to-face	19	Yes	Yes	No
8	Female	34	Semi-rural	Group	5	Face-to-face	16	Yes	No	No
9	Female	31	Urban	Single	2	Face-to-face	23	No	No	No
10	Female	51	Urban	Group	10	Face-to-face	20	Yes	No	No
11	Female	44	Urban	Single	6	Telephone	27	Yes	No	No
12	Female	54	Semi-rural	Single	20	Telephone	24	Yes	Yes	No
13	Female	62	Urban	Group	35	Face-to-face	18	Yes	No	No
14	Male	34	Rural	Single	4	Telephone	32	Yes	No	No
15	Female	40	Urban	Group	5	Face-to-face	15	Yes	No	No
16	Female	47	Semi-rural	Group	17	Face-to-face	16	Yes	No	No
17	Male	61	Urban	Single	24	Telephone	25	Yes	Yes	No
18	Female	57	Urban	Group	13	Telephone	27	No	No	No
19	Male	62	Urban	Multidisciplinary	33	Telephone	15	No	No	No



A. The GP's role in RA is limited to the diagnosis and treatment of pain	B. RA patient adherence is considered relatively adequate	C. The community-hospital relationship should be strengthened	D. No expectation on the part of GPs for increased collaboration with CPs	E. GP motivation to be more involved in a RA patient support programme
1. Poor involvement of GPs	10. Adherence assessment	16. Communication tools	21. Reasons for contact	28. No interest
2. GPs feel uncomfortable	11. Sufficient level of adherence	17. Sufficient relationship	22. Role of the pharmacist in supporting patients	29. GPs feel motivated
3. GPs feel comfortable	11. Sufficient level of adherence	18. Insufficient or non-existent relationship	23. Non-existent relationship	30. Few patients
4. Diagnosis and orientation	12. Lack of adherence	19. Expectation of a stronger relationship	24. Good relationship	31. Financial remuneration
5. Crisis management (including treatment)	13. Causes of non-adherence	20. Willingness to exchange quickly to limit time loss	25. No interest in developing collaboration	32. Lack of time
6. Monitoring and active support in the management of long-term treatment	14. Levers for adherence		26. Interest in developing collaboration	33. Lack of training
7. Management of comorbidities	15. Patient expectations		27. Barriers to collaboration	
8. Support in adherence information, patient management				
9. Expectation of collaborations with other professionals (especially rheumatologists)				

Fig. 1 Coding tree

(Fig. 1). The inter-coder agreement was 81% (Additional file 3).

Theme A: the GP's role in RA is limited to the diagnosis and treatment of pain

Involvement of GPs

They considered their involvement in the management of patients with RA to be limited. They recognised their role in the diagnosis of the disease. They claimed to delegate the management of RA and its treatment to rheumatologists, and then felt left out. They did not see themselves as the professionals who were supposed to manage the long-term treatment of RA.

> *'My part in the management is limited' (GP17).*
> *'I'm not the one who manages the long-term treatments, I'm not the one who manages things on the long term' (GP6).*
> *'I feel that I have a place at the beginning of primary care as a general practitioner' (GP9).*
> *'I refer them to the rheumatologist, from there I kind of lose track' (GP1).*

They considered their role to be more appropriate in managing crisis periods. They felt involved in the management of patient pain, especially between two visits to the rheumatologist and for the prescription of analgesics.

> *'They come mostly for a pain that is not controlled' (GP5).*

Some GPs acknowledged their involvement in the vaccination of patients and monitoring of side effects. GPs reported that patients regularly asked them questions about treatments.

> *'They have many questions about treatments' (GP4).*

GPs comfort level

Two GPs reported that they did not feel they were challenged. In contrast, the other GPs did not feel as comfortable. In particular, they expressed a lack of knowledge about the treatments used in RA and difficulties in managing the pain of some patients. Regarding DMARDs, they reported that they were unfamiliar with the latest biologics.

> *'I don't know anything about their treatments' (GP11).*
> *'I don't feel very comfortable with this, I don't necessarily suggest that they call me when there is a problem' (GP11).*
> *'When he comes to tell us that he is still suffering, we are a little helpless' (GP5).*

Expectation of collaborations with other professionals (especially rheumatologists)

GPs felt they had a coordinating role and appreciated being able to obtain specialist opinions from rheumatologists. GPs reported being positioned as a proximity healthcare professional, as pharmacists and nurses.

> *'I carry the hat of care coordinator between families, nursing assistants, housekeepers, physiotherapist, the community, the hospital… everything' (GP17).*
> *'The rheumatologist, once he has said that this is it, is not the one who meets the patient after the year to adapt the treatment and do things. It's the general practitioner, the pharmacist, well the other professionals in the community. And the general practitioner, at the level of physicians, is a professional of proximity compared to other professionals such as physicians. He is less so than a nurse or a pharmacist who see them more often' (GP4).*

Them B: RA patient adherence is considered relatively adequate

Levels of medication adherence in RA

GPs reported that they did not specifically investigate their patients' level of medication adherence. Some reported to ask their patients if they were taking their medication or not, but without advanced exploration. Some felt that adherence was correct in the context of RA, while others said it was less adequate.

> *'I don't investigate specifically treatment adherence' (GP1).*
> *'One out of two times it is very observed, and one out of two times it is outlandish' (GP19).*

Causes of non-adherence

Several factors for non-adherence were identified by the participants: fears about treatments, polymedication, intolerance, perceived ineffectiveness, and lack of knowledge.

> *'There are sometimes fears at the initiation of treatment as soon as we tell them about biologics' (GP11).*
> *'Over a certain age it can be complicated to have a lot of treatments, for blood pressure, pain, diabetes …' (GP10).*
> *'When they have too many side effects, they tend to delay the next injection' (GP14).*
> *'They are relatively disappointed with the persistence of symptoms despite the treatment' (GP10).*
> *'They haven't really been told how it works' (GP4).*

Levers for adherence

Collaboration and close monitoring of patients appeared to be levers of adherence.

> *'We are a team, to be there for them' (GP11).*
> *Potential remission of RA was also a factor related to adherence.*

Patient expectations

According to GPs, patients were waiting for information regarding the progression of their pathology and the side effects of treatments when they were discharged from hospital.

> *'At hospital discharge, they are given a lot of information but not necessarily those they expect' (GP14).*
> *'Especially to ease the pain and have as few side effects as possible' (GP19).*
> *'They mainly have questions about the progression of their disease, the long-term management' (GP6).*
> *'They often ask me questions, especially about side effects' (GP7).*

Theme C: the community-hospital relationship should be strengthened

Exchanges between hospital rheumatologists and GPs were carried out either by postal mail or by secured computer messaging. GPs felt that they did not systematically receive hospital discharge letters. However, they acknowledged that they received letters more quickly and regularly when using the secured computer messaging system. According to them, this method was time saving. They recognised the value of the letters and appreciated the feedback on hospitalizations and changes in treatment.

> *'I find it very good to have feedback about the hospitalization, the changes in treatment' (GP9).*

Nevertheless, they felt that the link between the community and the hospital remained irregular or even non-existent.

> *'I feel a little distanced from the hospital' (GP7).*
> *'I'm not really in the loop, although I'm the one she comes to see every month because she can't take it anymore' (GP8).*

They expressed the need to have earlier exchanges with specialists and to receive more information, for example, at treatment initiation.

> *'When this type of medication is introduced, it would be good to have the rheumatologist send a letter for example explaining the main elements to be checked' (GP1).*
> *'Sometimes they are surprised that some drugs have been modified. So what we would like is more direct exchanges» (GP4).*
> *'For sure if we want to strengthen ties, it will firstly have to be faster [information transmission]' (GP1).*

Theme D: no expectation on the part of GPs for increased collaboration with CPs

Current relationship with community pharmacists

GPs reported infrequent contact with pharmacists. They admitted that telephone contacts were often related to drug shortages or medication problems.

> *'They call me when they are out of stock' (GP1).*
> *'We only get in touch when there are problems' (GP8).*

GPs generally acknowledged that they had not developed collaborative projects with CPs, although some reported regular exchanges of information with them regarding their practices.

> *'We don't necessarily have many collaborative, interprofessional exchanges, especially with pharmacists' (GP4).*

'We are still well connected, we see each other once a year, to exchange on our practices' (GP16).

Regarding patients with RA, GPs mostly recognised the role of pharmacists in detecting drug interactions or adherence problems.

> *'They enable to have a double view on the prescription, not necessarily on the choice of drugs, but at least on the possible drug interactions between two drugs' (GP9).*

Some GPs were interested in developing collaborations with pharmacists, considering that this was a part of their job and that it would allow them to provide coherent messages to patients.

> *'The quality of life of people is improved when they receive messages that are consistent and when there is no contradiction between their caregivers' (GP4).*
> *'It is the essence of the prescriber's job and pharmacist's job I think to collaborate' (GP8).*

Most interviewed GPs said they had no expectation regarding an increased collaboration with CPs; they were mostly worried about having more constraints. They reported that they sometimes saw pharmacists overstepping their responsibilities, and some GPs felt they were not willing to delegate. They preferred to develop more relationships with the hospital than with CPs.

> *'I don't really know what can come out of this, except additional constraints' (GP7).*
> *'I don't see what it can bring more to me' (GP17).*
> *'It has happened that I said to myself, well, here they are overstepping [their role]' (GP2).*
> *'I'm not really the delegating type, I'm always scared of mistakes or forgetting, I always prefer to go back over everything' (GP15).*

Theme E: GP motivation to be more involved in a RA patient support programme

GPs reported being used to working alone. However, several participants had volunteered to be involved in a collaborative programme. GPs wanted to be more engaged in patient's education. Among the barriers to this type of involvement, the lack of training and time were identified. Payment was seen as a facilitator. The small number of patients with RA involved was both a barrier and a facilitator.

> *'I work alone in my office and it's true that I find it difficult to collaborate' (GP1).*
> *'It doesn't work unless people are paid to come' (GP4).*
> *'For us time is the issue, because we do have other things to do' (GP16).*
> *'We should actually be a little more aware of all these therapies' (GP7).*
> *'Therapeutic education work, all this is also something that can interest me personally' (GP11).*
> *'We do well what we do a lot' (GP12).*

Discussion

This qualitative study was the first to explore the point of view and experiences of French GPs regarding the management of RA patients. It also investigated the interest of GPs in developing inter-professional collaborations, especially with CPs. Most GPs considered themselves to be involved in the management of patients with RA, although they acknowledged their limited implication, preferring specialized follow-up of the pathology by rheumatologists. Despite several identified barriers, they expressed their interest in developing a greater collaboration with other healthcare professionals involved in RA management.

Current implication of GPs in RA

Participants recognised their role in the management of patients with RA, particularly in the diagnosis of the disease, the follow-up of crisis, and the pain. These results were consistent with a previous online survey published by our group that assessed the practices of GPs in the context of RA [20]. Recently, the Thurah et al. study have highlighted the role of the GP in the early diagnosis and referral to specialist care [24]. As the first or only point of contact with patients, GPs can play an important role [25]. However, several GPs acknowledged that they played a limited role and relied on rheumatologists for the follow-up of these patients. In contrast, rheumatology experts have previously reported the importance of involving GPs in the multidisciplinary team managing patients with RA [26]. Consistently, Meyfroidt et al. have described how GPs felt that they were losing contact with patients when they referred them to specialists [27]. This perception was shared by the GPs interviewed herein. They also stated that they did not systematically receive information after hospitalisation, as previously reported by other GPs [28]. Regarding medication adherence, in contrast with the literature, GPs herein did not report any major non-adherence among their patients. They indicated that it was sometimes insufficient, although they did not systematically assess it. The factors for non-adherence usually identified in previously published studies were similar to those identified by the participants in the present study [29, 30]. These particularly included, patients' fear of their treatment, polymedication, side effects, perceived ineffectiveness, and lack of knowledge. Voshaar et al. have reported that when physicians take into account patients' perceptions of their treatments, this could optimise adherence and therefore treatment effectiveness [31].

More specifically, the lack of knowledge of patients about their treatment was recognised as a factor of non-adherence. Consistently, Frantzen et al. have considered that providing information on biosimilars, largely unknown by patients, could preserve the relationship between patients and their physicians, avoid side effects, and improve patient's adherence [32]. Healthcare professionals must therefore provide clear information to patients about biosimilars [33].

Community-hospital collaboration

Collaboration between healthcare professionals in the hospital and in primary care is essential. In rheumatology, for example, this type of cooperation has previously been demonstrated to be beneficial to reduce the number of referrals to rheumatologists and the waiting times for non-urgent consultations [34]. In the present study, several participants requested summary information regarding changes in patients' usual treatment. The value of this type of communication to primary care professionals has been previously identified [35]. Other authors have recognised that providing written drug-related information to GPs and CPs was effective in reducing hospital readmissions [36]. In addition, poor communication was identified herein as a barrier to develop the relationship between the hospital and primary care. Additionally, the lack of access to rheumatologists has been identified as a barrier in the management of patients with RA [25], a barrier that was also reported herein.

Relationships between GPs and CPs

A German study has previously assessed the behaviours and needs of CPs and GPs [11]. As in the present study, the contacts between these two healthcare professionals were uncommon. The majority of GPs and CPs strongly trusted each other and recognised their expertise. Herein, the degree of trust of the GPs was not quantitatively assessed, but some of them acknowledged that they perceived pharmacists as potentially overstepping their roles. Blondal et al. have reported a few years ago that GPs considered that they had an unclear image of the role of pharmacists. Wüstmann et al. reported that a shared trust between professionals is a prerequisite for any collaboration [11]. In order to continue this cooperation, the frequency of interactions between them should be increased and the responsibilities of each party should be clarified in order to avoid misunderstandings. Developing and promoting exchanges between healthcare professionals is a major challenge for future policy and research. For example, training programmes for physicians and pharmacists should include strong interactions between professionals from the first stages of their training and professional careers [16]. The facilitators and barriers to the development of collaborations have been studied in different countries. For example, Hatal et al. have showed that GPs were in favour of involving pharmacists in medication reviews rather than in screening, monitoring, and prescribing [15]. This concern of GPs was also identified herein. Other barriers included inadequate payment and the burden of the whole practice. The perception of a limited benefit for patients was not a barrier identified in our study. As in the study of Hatal et al., the participants in the present study recognised the pharmacists' expertise on drugs (contraindications, drug interactions, etc.). One facilitator identified by Hatal et al. was the possibility of improving information transmission to patients. This idea was also proposed in herein: the collaboration of professionals would allow to homogenise the information transmitted to patients. To develop cooperation between professionals, Hatal et al. have proposed to increase effective communication and carry out pilot experiences. In the context of RA, the solicitation of a pharmacist for dosage and potential drug interactions has been suggested by some authors [37], as well as by the participants in the present study. In addition, the development of multidisciplinary meetings would be interesting. Shakeel et al. have indeed indicated that colleagues and clinical meetings were a major source of information for physicians [38].

Barriers to GPs' involvement in a collaborative programme

The qualitative analysis of the interviews conducted with GPs revealed their motivation to become more collaboratively involved in the care of patients with RA. However, several impediments need to be taken into account before developing a collaborative project. For example, Farias Teixeira et al. have showed the difficulties of GPs in diagnosing and treating rheumatic diseases, and their skills were improved by additional training in rheumatology [39]. The lack of knowledge and the need for training were also identified herein. Additionally, Garneau et al. have reported that GPs were uncomfortable with managing patients with RA who are treated through DMARDs administration; their reluctance was related to toxicities, infections, and intravenous treatment [25]. In the same way, a previous study has assessed the knowledge of physicians and pharmacists regarding biologics: physicians were not familiar with the target of these drugs, their mechanisms of action as well as the benefits and risks associated with these treatments [37]. Some authors even consider that DMARDs should preferably be prescribed by a rheumatologist, given their complexity and potential adverse effects [40]. Due to the development of several new DMARDs, some authors have decided to develop guidance tools to help pharmacists optimising patients' therapeutic transitions [41]. Such tools could also be offered to GPs. The participants of the present study indeed reported being regularly questioned by patients about their treatments, and in a previous study, GPs were also considered as a major source of information for patients, similarly to pharmacists [42]: hence, their level of knowledge should be sufficient for them to be comfortable.

Strengths and limitations

The qualitative design was considered as the most appropriate approach to explore GPs' opinions regarding the perceptions of their current practice and their willingness to become involved in a collaborative programme in the context of RA. The semi-structured and anonymous individual interviews allowed GPs to freely express themselves. As all qualitative studies, the present one suffered from a subjectivity bias in the collection of data. Nevertheless, the person who conducted the interview was not known by the participants, and was not involved in the direct care of patients. Moreover, the pharmacist status of the interviewer was unknown to the GPs. Although data saturation was reached, the study was based on the opinions of a relatively small group of GPs, which may not be clearly representative of all GPs. However, the group of interviewed GPs was relatively heterogeneous. The sociodemographic characteristics of the GPs were relatively similar to those of French GPs. In the present study, the majority of GPs had a limited involvement in research programmes or in the training of medical residents. Furthermore, interviews lasted on average approximately 23 min due to the very busy schedules of the GPs, which might have limited the amount of information collected. However, this study was focused on several themes, we did not intend to explore the whole topic of RA. Moreover, the number of interviews conducted before data saturation was similar to that of other studies. Data saturation was used herein to define the most appropriate sample and to ensure the trustworthiness and credibility of the findings. However, other concepts exist, such as the power of information, which considers the interview quality as more important than the quantity [43, 44].

Conclusions

The findings of the present study highlighted the barriers and facilitators for GPs to develop a collaborative programme aiming to optimize the therapeutic management of patients with RA. GPs were particularly interested in receiving more information regarding the therapeutic monitoring of patients by hospital professionals. They identified several potential causes of non-adherence in their patients, but considered them to be generally adherent to their treatment. They recognised the role of CPs; however, they did not believe that they should collaborate with them more closely.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12875-025-02713-4.

Supplementary Material 1
Supplementary Material 2
Supplementary Material 3
Supplementary Material 4
Supplementary Material 5

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Author contributions

ALY, AJD, EV, AF, CE, CC, RC, CD, and HdF substantially contributed to the conception of the study. ALY, AJD, and HdF contributed to the analysis of the results. All authors interpreted the data. ALY wrote the first draft of the manuscript. All authors substantively revised the manuscript for important intellectual content and gave approval for it to be submitted for publication.

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Data availability

Data that support the findings in the current study are available from the corresponding author (anne-laure.yailian@chu-lyon.fr) on reasonable request.

Declarations

Ethics approval and consent to participate

Ethics approval was obtained from the ethics committee of the *Université Claude Bernard Lyon 1* (No. IRB: 2019-05-21-03) on the 21th May 2019. Informed consent was obtained from the participants prior to study participation.

All methods were carried out in accordance with relevant guidelines and regulations.

Consent for publication

All participants provided written consent for publication.

Competing interests

The authors declare no competing interests.

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