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Patients' requests and physicians' prescribing behavior. A systematic review

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ABSTRACT

Background: Patients' requests is a frequently cited factor in the literature affecting doctors' prescribing decisions. This systematic review aims to consolidate quantitative findings, shedding light on the relationship between patient requests and the actions taken by general practitioners. A broader perspective was adopted by not limiting our investigation to specific medication categories. Instead, we treat the act of requesting as a communicative behavior, separate from the pharmacological context.
Method: A comprehensive search across various online databases was performed. Two authors independently contributed the screening phase. The selection of articles and the data extraction were performed following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) flowchart.
Results: Patient's request demonstrated to be a driving factor for physician's prescribing behavior not only when antibiotics are involved, but as a more generalized trend.
Conclusions: The study acknowledges the complexity of patient-provider communication, emphasizing the asymmetry in roles and the tension between patient empowerment and medical expertise. By uncovering the underlying mechanisms shaping doctors' responses to patient requests, this systematic review enhances our understanding of communication in healthcare settings.
Practice implications: Understanding the impact of patient requests on prescribing decisions highlights the importance of training healthcare providers in effective communication strategies that balance patient autonomy with clinical judgment. These insights can inform guidelines and interventions aimed at managing patient expectations, supporting more evidence-based prescribing practices and fostering better doctor-patient relationships.

1. Introduction

The interaction between patients and healthcare providers is fundamental to the delivery of quality medical care. Patients play an active role in their healthcare decisions, expressing preferences, concerns, and requests to their physicians. Concurrently, physicians are tasked with navigating patient requests while upholding professional standards and evidence-based practices in their prescribing behavior. The influence of patient requests on doctor's prescribing behavior has garnered increasing attention in medical research and practice, reflecting the evolving dynamics of the relationship and the growing emphasis on patient-centered care. Some of the previously written systematic reviews approaching this topic were solely focused on the request for antibiotics [1–7]. This study aims to expand the scope by considering requests beyond a specific drug treatment to target the communicative behavior of requesting and its consequences on doctors' behavior. Results could unveil whether there is a behavioral change in the doctor's response depending on the kind of drug that the patient is requesting. The main hypothesis is that patient requests influence doctor's behavior in the majority of instances, due to the strong prevalence of the rhetoric of patient-centered care, which leads doctors to be more attentive to patients' needs and preferences in order to improve patients' satisfaction. Another aspect that will be investigated as a secondary theoretical result, is the communication between patient and provider and the

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derived challenges posed by the negotiating context.

1.1. Background

During the medical visit, patients approach their doctor expecting a definitive answer and a quick resolution for their health problems. In recent decades a trend has emerged: that of autonomously seeking information [8]. This behavior is facilitated by the growing access to the internet and health-related information. Moreover, the medium offers greater privacy and constant availability. More informed patients interact with physicians in a medical context rooted in Patient Centered Care (PCC) [9] which postulated that the patient is to be considered a partner not only to provide care respecting their preferences, but also with the aim to improve healthcare for the whole population. Laypeople are inclined to formulate specific requests, presenting their doctors with their symptoms but also with various expectations and interpretations, when there are disagreements with the doctor it could become difficult to manage the medical encounter, challenging the concept of PCC, and potentially leading to higher healthcare costs. This behavior presents a problematic aspect of the concept of patient empowerment, which has been largely studied and conceptualized recently, consistently with the desire to shape the patient-provider relationship into a more egalitarian one holding patients more accountable for choices regarding their own health [10].

Furthermore, consumerism is becoming increasingly relevant in the United States, where patients argue they should receive better service from health care plans relative to the costs incurred [11,12]. This desire is expressed in their willingness to be more active participants in the decision-making process, reconfiguring their roles to resemble that of costumers. In commercial relationships, the buyer typically holds the power, whereas in traditional healthcare settings, the authority has been placed on the physician. That is why this shift in the patient-provider interaction is controversial. The result is an unbalanced relationship, in which the autonomy and authority granted to patients are taken away from doctors [13].

On the other side, doctors approach each visit with a complementary attitude. Each encounter introduces a problem, which evolves into a guided investigation aimed at a diagnosis and an associated treatment plan. The professional role of a doctor entails many responsibilities, not only towards the patient but also towards society. A study conducted by Lizzie De Silva et al. [14], emphasizes the gatekeeping role of General Practitioners (GPs) striving to maintain high patient satisfaction levels, safeguarding from the risks of unnecessary medical exposures, and curtailing the utilization of healthcare resources. A study performed by Nilsen and Malterud [15] shows the negative consequences of denying patients their requests, such as a strong disagreement leading to anger and even violent reactions. Gatekeeping is becoming more and more challenging as patients visit the doctor's office with ever-growing expectations [16].

A study by Fenton [17] demonstrated a highly significant correlation between requests for diagnostic tests or opiates and a high level of perceived difficulty. Contributing to the difficult management of the encounter, factors like patient satisfaction, fear of malpractice, and the perceived threat to professional authority are presented [17]. A study performed by Gallagher et al. [18] draws attention to the entitlement that patient derive from managed care. Increasing patient expectations place physicians in a stressful state, especially if they must face requests that are not medically appropriate. One strategy that is utilized by physicians to discuss with patient and to justify their choices is to rely on Evidence-Based Medicine (EBM). This process allows to adapt best and up to date evidence in medicine to every individual patient taking into account the patient's values and preferences [19]. In light of this approach, the interaction between healthcare professional and their patients also presents an opportunity to improve communication and overcome barriers as the physicians would have solid and reliable sources as a foundation for justifying their choices, while supplying informative material for patients that could enhance and improve communication between the two. The importance of enhancing communication is well illustrated by a recent study by Wagner et al. [20] which demonstrated how the absence of patient demand and inadequate awareness result in preventable deaths among thousands of young individuals.

The final goal would be to create an environment for an open discussion between health experts and their patients, and it is in this context that Shared-Decision-Making (SDM) was introduced. This collaborative process, which was first mentioned in the '80 s and the importance of which was reaffirmed legally in the '90 s [21], concerns a strong collaboration between patient and provider to take decisions that align with the patient's preferences, values and best available evidence. The first international SDM conference took place in 2001 with the aim of exploiting the practice to gain better and safer healthcare [22], and nowadays the practice is considered a key objective of many healthcare systems. Specifically, the model consists of three steps in which the patient is guided by the doctor during the visit, starting from the introduction of patient's choice, continuing through the description of different options and leading to the final patient's decision [23]. While the umbrella review performed by Dov Bruch et al. [24] states that health benefits tied to the practice are very population specific and difficult to generalize, it pointed out that it allows for the implementation of intrinsic goals of PCC without constraining clinicians' time. Much research has focused on this model, by defining the goals and limits of the practice, investigating perceptions in the health care field and developing tools to aid the implementation of SDM [25–27].

Nonetheless, even when following what is considered to be the best practice, some risks are present. Overemphasizing patient preferences in medical decision-making may introduce therapeutic risks and inflate healthcare costs. In extreme cases, this approach may reduce the doctor's role to that of a mere dispenser, devoid of any clinical judgment.

The patient-provider relationship is continuously evolving, adapting to societal and personal norms. This study aims to address this complex context by gathering quantitative data on the influence of patients' requests have on doctors' prescribing behavior. Understanding the effects of these requests could be a starting point for better navigating modern healthcare research and practice, providing valuable insights into the factors shaping clinical decision-making, patient-provider relationships, and ultimately, the quality and efficacy of healthcare delivery.

2. Methods

2.1. Design

This systematic review was conducted following the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA) checklist.

2.2. Inclusion and exclusion criteria

The population included patients and healthcare providers. There was no age limit and when minors were included the pressure of the request would usually come from a parent or a legal tutor. Only outpatients were included, as the present review focuses on generical patient-provider interactions, such as those encountered in general or family medicine. Patient requests were the independent variable and one of the major search terms. It is a complex concept that can be expressed in many ways, some alternative formulations were included, such as "patients' expectations", "patients' desire" and "patients' preference". Patients' requests are not only influencing doctors when directly stated, but also when they are perceived by doctors in the absence of a clear formulation, that's why articles measuring doctors' perceived pressure to receive a prescription were included. Another including criteria was the presentation of quantitative results, reporting a statistical assessment of the relation between patients' expectations

and doctors' prescribing behavior. Studies reporting only descriptive data and qualitative results, were excluded as the goal was to enhance the objectivity and precision of our findings by providing statistical assessments that could quantify the phenomenon and lead to a better understanding of the associations and patterns between the variables. The excluding criteria did not state any specific drug or illness because the aim of the review was that of describing a communicative behavior in the most comprehensive way. Because it was only at the beginning of the '90 s that theoretical work focusing on the definition and influence of patient expectations was firstly published [28–35], studies dating back to before 1990 were excluded from our search. To have a broader view of exclusion and inclusion criteria refer to Table 1.

2.3. Literature search

An electronic search was performed through February 2023 spacing over the main databases for health and communication. The databases which retrieved more results are Pubmed and Scopus, other databases were searched to provide a more complete overview, results retrieved from Communication Mass Media Complete, PsychInfo and CINHAL were also added. The database-specific search strings can be found in the Appendix. After the removal of duplicates and the first screening phase, before moving to the screening of full texts, a hand search of some systematic reviews investigating similar themes was performed and 9 articles were extracted.

A second search was performed in February of 2024 to update the results. The same search strings were used, and the publication year was applied as a filter to check for articles published during 2023 and the start of 2024. Through the screening, three new articles were added.

2.4. Identification and selection of studies

After deletion of duplicates, two authors (AR and AB) independently conducted an initial screening of titles and abstracts applying the predefined inclusion criteria. The full-text screening phase was conducted by the same two independent authors. The inter reviewer agreement was $k = 0.53$, with seven articles on which one of the reviewers was not able to make a decision. Disagreements were resolved through discussion, for four articles the decision was taken by a third independent reviewer (PJS).

For the updated search, the selection of the final articles to include was performed by two reviewers (AR and PJS).

2.5. Data extraction

Data were extracted by two reviewers independently and are reported in Table 2 and in Table 4. Some descriptive data were extracted and the quantitative data that were gathered depict the association between the request and the prescribing behavior.

Table 1
Excluding and including criteria. Source: [The author's work].

Category	Inclusion criteria	Exclusion criteria
Population	Adult outpatients or parents of a minor outpatient and health care providers	Inpatients, hospice residents, cancer patients, end-of-life care patients and assisted suicide applicants
Intervention	Request of medication prescription	Request for other kind of treatments that do not involve issuing a prescription for a medicament
Outcome	Influence of patient's requests on doctors' prescribing behavior	No statistical assessment of the link between patients' requests and doctors' prescribing behavior, only descriptive data
Study design	Quantitative observational or experimental studies	Qualitative studies, reviews, editorials, letters to the editors, studies not published in English or published before 1990

Source: [The author's work]

2.6. Assessment of methodological quality

Quality assessment of studies was again performed by two reviewers independently, and later compared. The tools used during this phase were mostly the STROBE checklist [36] and, where it was not applicable, the CASP checklist [37] was used instead.

The final average score assigned to the articles was of 7. 32 out of ten and the k agreement between the reviewers was $k = 0.96$

3. Results

3.1. Search results

From the search on electronic databases, a total 6411 articles were retrieved, and 1243 duplicates were removed. From these potentially eligible articles, 124 were deemed eligible for full text screening. Six articles were not retrievable in their full text format; authors were contacted and upon not receiving an answer, the articles were excluded. A second screening phase was performed on the 118 articles and 73 were selected for data extraction. The main reasons for excluding reports are presented in the PRISMA flow chart (Fig. 1). Systematic reviews were excluded because of the design but were manually searched to check for eligible articles. With this approach 9 studies were retrieved and later screened by two independent reviewers (AR and PJS) and deemed eligible. From the selected articles, some descriptive data were extracted, such as the name of the author, the year of publication, the country in which the study was performed, the illnesses and drugs investigated. The main focus is on quantitative data regarding the influence of requests on prescribing behavior, also noting covariates when identified by the study. Table 2 reports a summary of the main data extracted.

3.2. Studies characteristics

Publication years ranged from 1991 to 2024. Among the studies that were set in one country, the majority took place in the USA (n = 24) [35,38–60]. More than 20 nationalities were investigated with studies taking place on a multiple-country basis. Only eight [35,38,61–66] studies included data of minors or were exclusively dedicated to the investigation of pediatricians' behavior in response to parental pressure. The sample size of studies showed great variation, the largest number of participants gathered data from 59'535 patients[67], while the smallest sample reported data from 54 female patients gathered by 6 GPs [68]. Many medical conditions were represented, but two were prevalent. The first being manifestations of respiratory tract infections, which made up to 43 % of the sample [29,30,35,38,50,52,54,56,61–65,67,69–89]; and the second composed by articles that did not have any focus on a specific medical condition, representing 29 % of the sample [28,32–34,39,40,48,57–59,66,90–102]. Six studies (ca. 8 % of the sample) investigating psychological health issues, such as substance abuse and depression or adjustment disorder (each condition represented by 3 studies) [42,45,47,49,60,103], were also included. A more detailed list is reported in Table 3.

As for the drugs that were requested, the results are quite specular to the medical condition of patient presentation. The most represented drugs are antibiotics, making around 51 % of the included studies [29–31,35,38,44,46,50,52,54,56,57,61,63–72,74,75,78–90,99,104–106]. The second largest group, representing 27 % of the sample, is composed by studies which included any drug request without limiting the focus of the study to one specific class of medicaments. The complete list of drugs investigated is reported in Table 3.

Almost all studies had an observational, cross-sectional and quantitative design, but were included also randomized trial studies, mixed

Table 2
Characteristics and outcomes of all included studies.

Author (year); Country; N	Medical condition	Drug	Mean age (SD) *	Significant covariates	Requesting behavior	Association p-value
Akkerman (A) (2005); Netherlands; 146 GPs and 1490 consultations	Sinusitis, tonsillitis, bronchitis	Antibiotics	Patients: 37 years	Sinusitis: Type of insurance; Cough; Signs of inflammation; GP's perception of severity of illness Bronchitis: Patient's age; Wheezing; Signs of inflammation; GP's perception of severity of illness Tonsillitis: Signs of inflammation; GP's perception of severity of illness	GPs' perception of Patient expectations	Positive < 0.05
Akkerman (B) (2005); Netherlands; 146 GPs and 458 consultations	Acute otitis media	Antibiotics	Patients: 10 years	Age; Severity of illness	GPs' perception of patient or parental expectations	Positive < 0.05
Arney (2012); USA; 211 physicians	Any illness	Any drug	54 years		Predictors of accommodating a Brand-Name Drug request: Area of practice Patient's understanding of risks Patient has the condition the drug treats	Positive - Patient has condition: < 0.001 - Patient understands risks: < 0.001 - Patient understands the limitation of efficacy: < 0.001 -Patient understands who should not use the drug: 0.02 - Patient understands what condition the drug treats: 0.03 - Patient understands how to get more information: 0.01
Arnold (2005); USA; 257 physicians	Upper respiratory tract infection	Antibiotics	Not reported	Patient appearance; Patient age; Patient temperature; Type of MD	Parental pressure	None 0.23
Basu (2022); India; 200 early career clinicians including 100 medical interns and 100 junior residents	Any illness	Antibiotics	Not reported		GP's perception of patient expectations	Negative < 0.001
Beauvais (2018); France; 277 GPs	Any illness	Any drug that has a generic substitute	52.2 years (11.1)	Patient's age	Patient request	Positive 0.001
Brabers (2018); Netherlands; 286 patiens	Acute cough, acute rhinosinusitis, and urinary tract infection	Antibiotics	Not reported		Patient request	Mixed results: Not significant - Patient request: 0.318 Positive - Request x indication unsure: 0.049
Britten (1997); UK; 15 GPs and 544 patients	Any illness	Any drugs	Not reported	Patient ethnic group	Patient hope Doctor's perceived patient hope Doctor felt pressurized	Mixed results Positive - Patient hope: 0.028 - GPs' perception: < 0.001 Negative: - GPs feel pressurized: 0.006
Carlsen (2012); Norway; 571 GPs	Chronic condition	Drug A or drug B	46 years	Total costs; Drug effect; Patient costs; Good previous experience with the medicine	Patient preference	Positive < 0.001
Cham (2018); Australia; 128 GPs	Vitamin B12 deficiency	B12 supplements	Not reported	Belief of an overuse of B12 supplements in Australia	Patient demand	Positive 0.037
Ciofi Degli Atti (2006); Italy; 71 pediatricians and 2151 visits	Respiratory tract infection	Any drug vs antibiotics	4.2 years	All drug prescription: Season; Diagnosis; Presence of fever at the visit; Previously visited in the last month; Influence perceived by doctors; Mother's educational level Antibiotics prescription: Diagnosis; Presence of fever at the visit; Perceived patient's concern	Pediatricians' perception of parental expectations of any drug Pediatrician's perception of parental expectation of antibiotics	Mixed results: Perception of expectations of antibiotics: Positive -Upper RTI other than AOM: < 0.001 - AOM: 0.033 Not significant - Lower RTI: 0.141 Perception of

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Table 2 (*continued*)

Author (year); Country; N	Medical condition	Drug	Mean age (SD) *	Significant covariates	Requesting behavior	Association p-value
						expectation for any drug: < 0.001
Cockburn (1997); Australia; 22 general practitioners and 336 patients	Any new condition	Any drug	Not reported	Patient newly diagnosed condition:	Patient expectations Patient preference Doctor perceived patient expectations	Positive - Expectations: 0.008 - GP's perception of expectations: 0.0001
Coenen (A) (2006); Netherlands; 72 GPs	Cough	Antibiotics	44 years [8]	Comorbidity and risk; Circumstances; Symptoms; Signs; Prescription; GPs' characteristics	Patient demand	Positive with normal lung auscultation or just one abnormal auscultatory finding: < 0.05
Coenen (B) (2013); 13 European countries (Belgium, Finland; Germany; Hungary; Italy; Norway; Poland; Slovakia; Spain; Sweden; Netherlands: UK); 3402 patients	Acute cough	Antibiotics	Not reported		Patients' expectations Patient's hope Direct request Doctors' perceived desire	Mixed results: Positive: - Expectations: < 0.05 - Hope: < 0.05 - GP's perception of patient expectations: < 0.05 Not significant - Direct request
Courtenay (2017); Scotland, Wales, and England; 120 patients	Respiratory tract infection	Any drug	Not reported		Patient expectations	Mixed results: Positive: - Expects pain relief: < 0.001 - Expects nose drops: < 0.006 - Expects cough medication: < 0.001 Not significant - Expects antibiotics
Cutts (2005); Australia; 17 GPs and 481 patients	Any illness	Any drug	Not reported	Patient gender; Distance from studio; Socio demographics; Medical condition; Doctor's gender	Patient expectations GP's perception of patient expectations	Mixed results: Positive - GP perception: < 0.006 Not significant - Patient expectations
Dietze (2020); USA; 92 ophthalmologists	Any illness	Brand-Name drug	49.3 years (12.6)	Knowledge of availability of generic options; Knowledge of price differences between generics and brand-name drugs; Inclination to prescribe a brand-name drugs for more severe disease; Anecdotal feeling that patient outcome is improved with brand-name drugs; Desire to take a brand-name drug for own eye disease when free; Desire to take a brand-name drug for own eye disease	GPs 'perceived patient preference for generics	Positive < 0.001
Engel-Rebitzer (2021); USA; 1012 patients	uncomplicated ureter colic or musculoskeletal back and / or neck pain	Opioid	40.08 years (14.1)		Patient preference x race	Positive - Being white: < 0.001
Epstein (2007); USA; 152 GPs	Major depression and adjustment disorder	Antidepressants	46.2 (9.9)	Depression role	Patient request	Positive - Brand specific request: < 0.05 - Generic request: < 0.05
Esfandiari (2019); USA; 359 physicians (128 primary care physicians; 114 endocrinologists; 113 geriatricians)	Hypothyroidism	Thyroid hormone therapy	Not reported		Patient's request of unconventional management practices	Positive - Use of preparation other than synthetic T4 alone: < 0.001 - Adjustment of thyroid hormone based on symptoms: 0.014 - Maintaining THS below normal: < 0.001
Hendrikx (2016); Netherlands; 435 patients	Rheumatoid arthritis	Rheumatoid arthritis treatment	59 years [13]	Expected change; DAS28; Disease duration	Patient's willingness to intensify therapy	Positive < 0.001
Himmel (1997); Germany; 10 GPs and 185 patients	Any illness	Any drug	Not reported		GP's perception of patient expectations	Positive < 0.001

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Table 2 (*continued*)

Author (year); Country; N	Medical condition	Drug	Mean age (SD) *	Significant covariates	Requesting behavior	Association p-value
Hoffman (2003); South Africa; 11 GPs and 330 patients	Acute respiratory illness	Antibiotics	Patients: 29 years	Indication of antibiotics	Patient thinks the antibiotic will help The patient expects an antibiotic The patient intends asking for antibiotics Doctor's perception of patient's expectations GP's perception of pressure by the patient	Mixed results: Positive - Believing the antibiotic will help: < 0.0001 - Expecting an antibiotic: < 0.0001 - Intention to ask for an antibiotic: < 0.0006 - GP's perception of expectations: < 0.0001 Not significant - GP's perception of pressure
Holloway (2002); Nepal; 218 patients	Any illness	Any drug	Not reported		Patient demand	None
Hooper (2005); UK; 117 members of the British armed forces	Any illness	Any drug	36 years (8.4)		Patient expectations	Positive < 0.05
Huang (2023); Singapore; 557 physicians	URTI	Antibiotics	Not reported	Higher probability of prescribing antibiotics: Agreeing with: Patient should take antibiotics for URTI because the risks are low; Agreeing with: Educating the public on appropriate antibiotic use will reduce my work pressure in handling URTI patients; Lowered threshold for antibiotic prescribing Lower probability of prescribing antibiotics: Effort to prescribe antibiotics prudently due to concerns about antibiotic resistance post-COVID−19	Patient demand Patient attributed pressure	Mixed results Positive: - Patient demand: 0.01 - Pressure to prescribe pre-COVID−19: 0.014 Not significant: - Pressure to prescribe post-COVID−19
Hummers-Pradier (1999); Germany; 18 GPs and 280 patients	Common cold, sinusitis, tonsillitis, laryngitis, bronchitis	Antibiotics and symptomatic drugs	Not reported	Symptomatic drugs: Tonsillitis; Yellow-green sputum; Bronchitis Antibiotics: Sinusitis; Bronchitis; Tonsillitis; Yellow-green sputum; Non-smoking	Wish for a symptomatic drug Wish for an antibiotic	Mixed results: Positive: - Wish for symptomatic drug: < 0.05 Not significant: - Wish for antibiotic
Hupert (2004); USA; 241 patients	Anthrax infection	Antibiotics	Not reported	Possible exposure to anthrax; Abnormal examination findings; Presence of any symptoms	Patient request	Positive < 0.001
Hwang (2007); South Korea; 608 GPs	Acute upper respiratory infections	Injection drugs	46.1 years [10]	Doctor characteristics: Gender; Age; Clinical specialty; Knowledge and beliefs	GP's perception of patient demand	Positive < 0.001
Jakobsen (2010); Wales, Norway, Sweden; 803 patients	Respiratory tract infections	Antibiotics	Not reported	Welsh: Discolored sputum; Crackles; Wheezes Scandinavian CPR tested: Diminished breath sounds; Crackles; CPR levels Scandinavian not CPR tested: Crackles	GP's perceived patient's preference	Positive < 0.05
Jones (2018); USA; 4225 doctors	Opioid use disorder	Buprenorphine	Not reported	Practicing in the Midwest vs the South; Practicing in a specialty substance abuse treatment facility or an opioid treatment program compared to an office-based solo practice; Having a board certification in addiction or addiction medicine; Interacting with PCSS-MAT; Being listed on the SAMHSA Provider Locator; Prescribing or administering extended-release naltrexone; Co-prescribing or encouraging patients to obtain naloxone; Citing no barriers compared to insurance reimbursement, prior	Lack of patient demand as a barrier to prescription	Negative - Lack of patient demand: < 0.05

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Table 2 (*continued*)

Author (year); Country; N	Medical condition	Drug	Mean age (SD) *	Significant covariates	Requesting behavior	Association p-value
				authorization, or other insurance requirements; Practicing in a hospital or health system, a clinic setting, including federally qualified health centers, an Emergency Department, and other practice setting compared to an office-based solo practice; Endorsing lack of access to psychological services or behavioral health providers, lack of access to addiction specialists for consultation, lack of confidence in managing patients with opioid use disorder; Preferring non-buprenorphine treatment options; Resistance from practice partners or staff or lack of institutional support; Federal or state regulations related to buprenorphine; Concerns over DEA intrusion into your practice; Getting practice started or no current practice site; Needing a supervisory physician or protocol for nurse practitioners or physician assistants; Other barrier		
Kandeel (2014); Egypt; 350 patients of which 227 were minors	Acute upper respiratory illness	Antibiotics	Adults: 40 years [15] Minors: 4.8 years (4.1)	Healthcare facility; Symptoms	- Children: caregiver's preference for an antibiotic - Adult patients: preference for an antibiotic prescription	Positive - Children: < 0.01 - Adults: < 0.05
Karras (2003); USA; 104 patients	Diarrhea	Antibiotics	Not reported	Features consistent with a bacterial enteritis	Patient expectations GP's perception of patient expectations	Mixed results Positive: - GP's perception: < 0.05 Not significant - Patient expectations
Kittner (2014); Germany; 267 patients	Chronic hepatitis C genotype 1	Current medical treatment	54.16 years (11.77)	Fibrosis; Presumed efficacy; Low presumed risk of therapy-induced hepatic decompensation; Grade of expected tolerability	Patient demand	Positive 0.00
Kravitz (A) (2003); USA; 45 GPs and 559 patients	Any illness	Any drug	Patients: 55 years		Patient demand	Positive < 0.05
Kravitz (B) (2005); USA; 152 GPs	Depression and adjustment disorder	Antidepressants	Not reported		Major depression type of request - Brand specific request - General request Adjustment disorder type of request: -Brand-specific request - General request	Positive Major depression - Brand specific request: 0.03 - General request: < 0.001 Adjustment disorder - Brand specific request: < 0.001 - General request: 0.002
Kumar (2008); India; 90 GPs	Runny or blocked nose, cough, sore throat, diarrhea or fever	Antibiotics	Not reported	Disease related factors; Patient related factors; Doctor related factors; Facility related factors:	Patient request	Positive < 0.021
Kwan (2022); Kenya; 200 post demanding observations	Childhood diarrhea	Amoxicillin and albendazole	Not reported		Albendazole request Amoxicillin request	Mixed results Positive - Request of albendazole • Receive albendazole: < 0.0001 • Receive any antiparasitic: < 0.0001

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Table 2 (*continued*)

Author (year); Country; N	Medical condition	Drug	Mean age (SD) *	Significant covariates	Requesting behavior	Association p-value
						Not significant - Request of amoxicillin
Lado (2008); Spain; 937 patients	Any illness	Any drug	Not reported		GPs' perception of patients' expectations	Positive < 0.001
Lauridsen (2017); Denmark; 361 patients	Respiratory tract infection	Antibiotics	Not reported		Patient expectations	Positive < 0.001
Leung (2022); USA; 2582 patients	Depression	Antidepressants	48.7 years (15.3)		Patient preference	Positive < 0.05
Linder (2003); USA; 310 patients	Upper respiratory tract infections	Antibiotics	34 years [12]	Abnormal lung exam; Pharyngeal exudate; Tympanic membrane abnormality; Sinus tenderness; Lymphadenopathy; Temperature (>37 °C); Sinus pain charted by provider	Patient desire	Positive < 0.05
Little (2004); UK; 847 patients	Any illness	Any drug	Not reported	Perceived medical need	Patient direct pressure Perceived patients' pressure	Positive - Slight direct pressure: 0.025 -Perceived moderate pressure: 0.022
LLor (A) (2013); Argentina; Denmark; Lithuania; Russia; Spain; Sweden; 59'535 patients	Respiratory tract infection	Antibiotics	35 years		Patient request	Positive < 0.001
Llor (B) (2014); Spain; 281 GPs and 25'479 patients	Respiratory tract infections	Antibiotics	Patients: 43.6 years (20.8)		Patient request	Positive < 0.001
Lum (2018); Australia; 23 GPs	Any illness	Antibiotics	Not reported	Duration of symptoms; No upcoming life event; Patient can't return for assessment	Patient request	Positive < 0.01
Mcfarlane (1997); UK; 76 GPs and 787 patients	Acute lower respiratory symptoms	Antibiotics	Patients: 47 years (0.6)		Patient expectations Patient demand	Positive - Expectations: < 0.0001 - Patient demand: < 0.0001
Mangione-Smith (1999); USA; 10 GPs and 306 parents of patients	Upper respiratory tract infections	Antibiotics	Parents: 38 years		Parental expectations GP's perception of parental expectations	Mixed results depending on viral diagnosis: No viral diagnosis - Parental expectations: 0.004 - GP's perception: 0.001 Viral diagnosis: - Parental expectations: not significant - GP's perception: 0.02
McKinlay (2014); USA; 192 GPs	Sciatica and Chronic knee osteoarthritis	Oxycodone; Celebrex and pain killers	49.4 years (9.6)		Specific request	Positive Sciatica: Oxycodone request - Oxycodone: < 0.001 - Strong narcotic: < 0.001 - Weak narcotic: 0.01 Osteoarthritis: Celebrex request - Celebrex: < 0.001 - Non selective NSAID: 0.008 - No NSAID: 0.004
Mintzes (A) (2002); USA; Canada; 78 GPs and 1431 patients	Any illness	Any drug	Not reported		Patient request	Positive < 0.05
Mintzes (B) (2003); USA; Canada; 78 GPs and 1431 patients	Any illness	Any drug	Patients: Sacramento: 50 years [17] Vancouver: 48 years [17]		Patient expectations Patient request	Positive - Expectations: < 0.05 - Request: < 0.05
Moro (2009); Italy; 633 GPs and 1029 parents of patients	Respiratory tract infection	Antibiotics	Mothers: 35 years Fathers: 37 years GPs: 48 years	Parent born abroad; Exduate or tonsillar hyperemia; Facial pain; Otalgia; Absence of diarrhea; Cervical adenopathy; Bulging tympanic membrane; Otorrhea;	Parental expectations GPs' perceived patient's expectations	Positive - Parental expectations: < 0.05 - GP's perception: < 0.05

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Table 2 (*continued*)

Author (year); Country; N	Medical condition	Drug	Mean age (SD) *	Significant covariates	Requesting behavior	Association p-value
				Absence of rhinorrhea; Fever > 38°C		
Morrell (2020); UK; 181 GPs	Respiratory tract infection	Antibiotics Delayed prescription	Not reported	Symptoms; Duration; Comorbidities; Length; Risk of harm; Adverse effects; Format of prescription	Patient preference	Mixed results Positive - Preference to have antibiotics: 0.023 Negative - Preference to not have antibiotics: 0.02
Nazareth (1993); UK; 6 GPs and 54 women	Lower urinary tract symptoms	Antibiotics	28 years	Level of acquaintance with the patient; Patient age	Patient request	None
Author (year); Country; N	Medical condition	Drug	Mean age (SD)	Significant covariates	Requesting behavior	Association p-value
Ong (2007); USA; 272 patients	Upper respiratory tract infection	Antibiotics	Not reported		Patient expectations GPs' perception of patients' expectations	Mixed results Positive - GP's perception: < 0.05 Not significant: - Patient expectation
Pareek (2018); USA; 567 GPs	Erectile disfunction	Drugs for erectile disfunction	Not reported		Patient request	Positive < 0.05
Patel (2019); USA; 109 GPs	Upper respiratory tract infection	Antibiotics	Not reported	Patient presentation; Other clinical factors; Non clinical factors	Patient request	Positive 0.02
Perera (2021); New Zealand; 325 GPs	Upper respiratory tract infection	Antibiotics	Not reported	Antibiotic prescription: Earache Antibiotic dispensed: Symptom severity	Parental and patient expectations	Positive - Prescription issued: 0.01 - Antibiotic dispensed the next week: < 0.01
Ridge (2009); UK; 192 patients	Substance dependence	Buprenorphine and methadone	34.7 years (7.67)	Buprenorphine: Treatment goal; Prior treatment; thinking that depression and methadone are linked Methadone: Gender; Treatment goal; Thinking that anxiety and buprenorphine are linked	Patient preference	Positive - Preference for buprenorphine: 0.002 - Preference for methadone: 0.02
Rodriguez (2013); USA; 142 HIV providers	HIV	Postexposure prophylaxis (PEP)	Not reported	Belonging to a practice which saw more than 20 positive patients; Having a written protocol for PEP; Reporting barriers; Agreeing that PEP causes AMR; Feeling neutral about the possibility of increased AMR	Patient request	Positive < 0.05
Sanchez-Menegay (1994); Switzerland; 360 patients	Any illness	Any drug	35 years [14]		Patient expectations	Positive < 0.0001
Scott (2001); USA; 298 patients	Respiratory infections	Antibiotics	Not reported	Portraying severity of illness; Prior positive experience	Patient request	Positive < 0.014
Sirota (2016); UK; Experiment 1: 305 GPs Experiment 2: 131 GPs	Possible bacterial infection	Antibiotics	Not reported		Patient expectations	Mixed results Positive - Expectations: < 0.001 - Expectations x incoming competition: < 0.019 -Not significant - High expectations with symptoms of a cold
Stivers (2021); USA; 68 patients	Any illness	Antibiotics	Not reported		Priming Nudging Resisting	Mixed results - Priming or nudging: < 0.05 Not significant Resisting
Stremersch (2013); USA; 2294 GPs	Any illness	Statins	Not reported		Patient request	Positive < 0.05
Strumilo (2016); Poland; 1456 consultations	Respiratory infection	Antibiotic	Not reported	Factors that increased the likelihood of antibiotic prescription: Temperature > 38°C; Symptom duration > 7 days; Headache while bending forward; Redness of throat; Tonsillar exudate; Enlargement of lymph nodes; Expectation of purulent sputum; Thick purulent	Direct patient request to prescribe Direct patient request not to prescribe	Mixed results Positive - Request to prescribe: 0.002 Negative - Request not to prescribe: 0.001

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Table 2 (*continued*)

Author (year); Country; N	Medical condition	Drug	Mean age (SD) *	Significant covariates	Requesting behavior	Association p-value
				nasal discharge; Wheezing or rhonchi; Rales or crepitation; Starting antibiotics on her own Factors that decreased the likelihood of prescription: Sore throat; Rhinorrhea		
Sydenham (2022); Denmark; 1152 GPs	Respiratory infection	Antibiotics	Not reported		Patient expectations	None
Teng (2004); Malaysia; 12 GPs	Upper respiratory tract infection	Antibiotics	38 years [9]		Patient request	None
Timpka (1991); Sweden; 11 GPs and 135 patients	Genitourinary infection	Antibiotics	Patients: 44 years [21]		GPs' perception of patient desire	Positive < 0.01
Toska (2023); Greece; 306 physicians	Any illness	Antibiotics	40.7 (11.1)		Patient or parental demand	Positive 0.044
Tracy (2003); Canada; 431 GPs	Bronchitis	Antibiotics	Not reported	Type of practice; Hours per week seeing patients	Patient request	None
Venkataraman (2007); USA; 2774 GPs	Any illness	Any drug	Not reported		Patient request	Mixed results Positive - Request for more effective drug or sample: < 0.001 Negative - Request for drugs with more side effects: < 0.001
Virji (1991); UK; 141 open access patients and 139 appointment attenders	Cold	Antibiotics	Not reported	Patient belief that a cold could turn nasty	Patient expectations	Positive < 0.001
Vonferber (2002); Germany; 618 patients	Any illness	Any drug	Not reported		Patient expectations Patient desire	Positive - Expectations: < 0.001 - Desire: < 0.001
Wagner (2024); India; 2282 physicians	Child diarrhea	Antibiotics and Oral rehydration salts (ORS)	44.4 years		Patient request	Positive: - Request for ORS: < 0.01 - Request for Antibiotics: < 0.01
Walley (2008); USA; 235 GPs	Opioid addiction	Buprenorphine	Not reported	Factors associated with increased prescribing rates: Specialty; Type of practice Factors associated with lower prescribing rates: Support: Lack of institutional support	Low patient demand as a barrier for prescription	Negative < 0.001
Wang (A) (2021); China; 126 GPs and 300 retail pharmacies	Upper respiratory tract infection	Antibiotics	Not reported	Expressing knowledge about antibiotics	Patient request	None
Wang (B) (2023); Italy; 1436 hospital-based GPs	Chronic obstructive pulmonary disease	Antibiotics	Not reported	Physicians have prescribed antibiotics to a patient under similar conditions previously	Patient request	Negative 0.00
Webb (1994); UK; 12 GPs	Any illness	Any drug	Not reported	Age; Anxiety level; GP visited in comparison with GP1; Presenting problem	Patient expectations	Positive < 0.001
Weiss (A) (1996); UK; 228 GPs	Any illness	Any drug	Not reported	Concern about the possible adverse effects of financial pressure upon medical decisions	Patient demand	None
Weiss (B) (2004); UK; 427 GPs and 160 patients	Respiratory tract infection with a sore throat	Antibiotics	Not reported		Patient expectations Patient thinks he will benefit from antibiotics GPs and nurses' perceived patient expectations	Mixed results Positive on GPs - Patient expectations: < 0.001 - Patient thinks he will benefit from antibiotics: < 0.001 - GP's perceived expectations: < 0.001 Not significant on nurses - Patient expectations - Patient thinks he will benefit from antibiotics - Nurses' perceived expectations
Wong (2016); China; 19 GPs and 321 patients	Acute cough	Antibiotics	Patients: 47.1 years (14.9)	Symptoms; Clinicians' perception; Patients' opinions on antibiotics	Patient expectation Patient request Patient anticipation	Positive - Expectations: 0.002 - Request: < 0.001

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Table 2 (*continued*)

Author (year); Country; N	Medical condition	Drug	Mean age (SD) *	Significant covariates	Requesting behavior	Association p-value
					GP's perceived patient expectations	- Anticipation: 0.001 - GP's perception: 0.001

Source: [The author's work on the selected papers], Note: [*When the standard deviation is not displayed it means that the author of the article did not provide it.]

method designs and experimental designs.

3.3. Assessment of patients' requests

Patient pressure to prescribe was assessed and measured in many ways. Indirect pressure to receive a prescription was one of the most prevalent formulations. Expectations, whether explicitly expressed or solely inferred, have a role during the medical encounter. Out of 35 articles which measured expectations, 6 took into consideration only GP's perception [61,62,69,90,94,97], while 10 measured both, the actual patient's expectations, and those perceived by the doctor [34,35,46,52,64,71,74,88,89,93]. Direct verbal request was also largely investigated and was labelled as patient request in 25 articles [20,42,44,51,53–56,58,59,67,68,70,79,81,83,85–87,89,91,99–101,106] and patient demand in 12 articles [29,33,45,48,60,66,72,75,77,95,107,108]. Verbal request was mainly measured as a dichotomous variable indicating whether the patient made the request or not. Only one study measured GPs' perceived level of demand exhibited by patients [77]. The results seem to indicate that the act of requesting is acting as a spectrum: between the two extremes of implied expectations and direct request, 14 studies assessed the patient's attitude or the GP's perception of it, using terms that do not inherently indicate either an active or passive request. Under this category many terms were recorded: patient preference [8,40,41,49,63,78,82,103,109]; patient pressure [2,38,98]; patient desire [2,31,50] or wish [1,76] and patient willingness to change therapy [1,110].

Lastly, 7 articles did not used only one indicator of patient request, but included more measures [39,71,74,75,89,92,101].A total of 54 articles mentioned the exclusive use of a single measuring tool: either a questionnaire, a survey, or a form [25–32,35–38,40,42,43,45–47,51,52,57–59,62–67,69–79,82,85,87–91, 93, 95, 97, 98, 104,105,107]. Some other approaches used to gather data were trained standard patients [4,20,47,87,104], focus groups or structured interview [3,63,95,103], discrete choice experiments [3,84,106,109], and a few studies used more than one approach [9,51,52,58,64,71,89,97,99,102]. The information about the tools and the assessment measures are reported in Table 4.

To note that from Table 4 three studies are missing because their assessment was of a different nature: they used trained family medicine residents or researchers to assess whether a request was present or not [56,57,83].

3.4. Association between patient request and doctor behavior

Even though requests can come across as stressful, they are a valuable tool that patients can use to communicate their attitudes and desires during the visit. Two studies were included, which analyzed the effects of low patient demand on doctor's prescribing behavior [45,60], and both demonstrated that doctors perceive it as a barrier, affecting their behavior by significatively lowering the odds of issuing a prescription. All the studies tested the association between patient's requests and doctors' prescribing behavior and 51 reported solely a

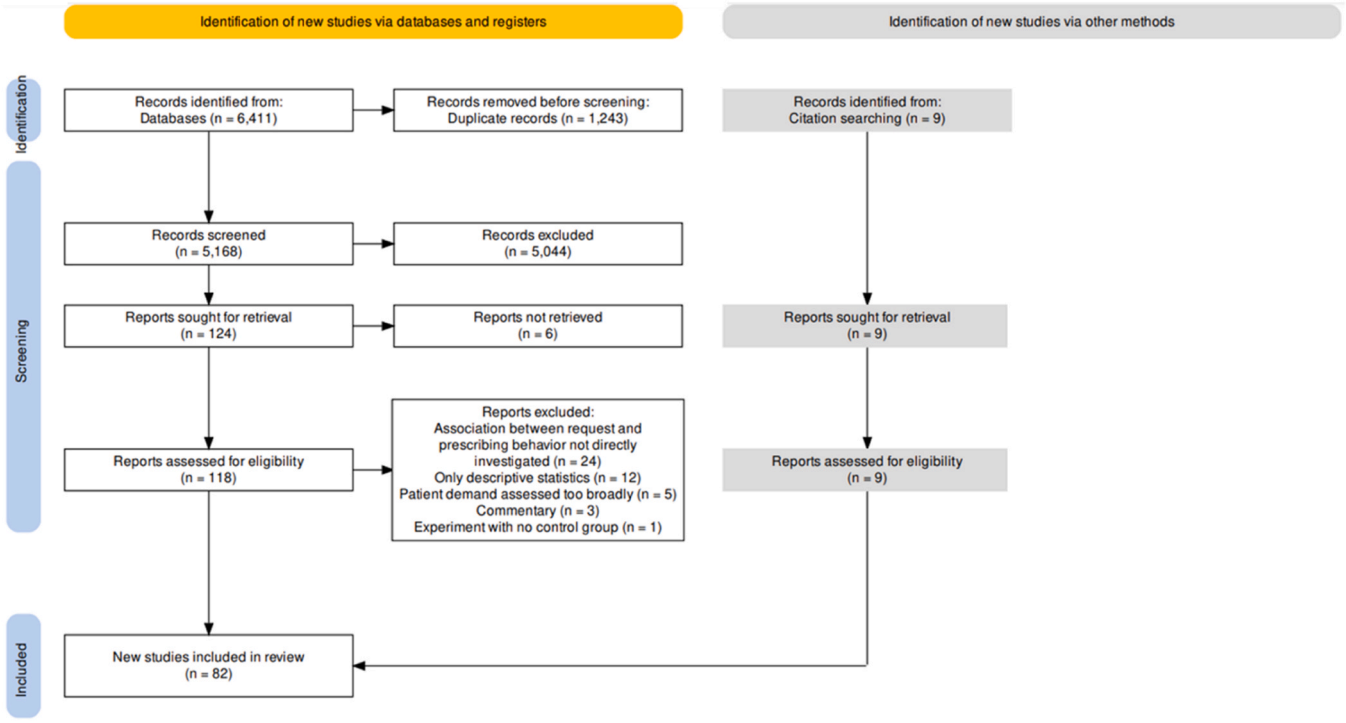


Fig. 1. Flow chart for the selection of studies]. Source: [Haddaway, N. R., Page, M. J., Pritchard, C. C., & McGuinness, L. A. (2022). PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and Open Synthesis Campbell Syst].

Table 3
Frequency of medical conditions and of requested drugs.

Medical condition	Frequency of use
RTI	35
Any illness	24
Substance dependence	3
Depression or adjustment disorder	3
Diarrhea	3
Genitourinary infection	2
Other: HIV; Erectile dysfunction; Vitamin B12 deficit; Chronic obstructive pulmonary disease; Possible bacterial infection; Symptoms of sciatica / diagnosed chronic knee osteoarthritis; Chronic hepatitis C genotype 1; Anthrax infection; Rheumatoid arthritis; Hypothyroidism; uncomplicated ureter colic or musculoskeletal back or neck pain	1
Drug requested	Frequency of use
Antibiotics	42
Any drug	22
Opioids	5
Antibiotics in comparison with other drugs	3
Antidepressants	3
Other: PEP for HIV; Drugs for erectile dysfunction; B12 supplements; Treatment for rheumatoid arthritis; Thyroid hormone; Treatment for chronic hepatitis C; Statins	1

Source: [The authors' work on the selected papers], Note: [RTI = Respiratory tract infection; PEP = Post-exposure prophylaxis]

positive association. Only 4 studies showed a negative association between the two variables [45,60,90,106] and 8 no association [33,38,68,84–87,95]. A total of 19 studies reported mixed results [35,46,52,57,59,62,70,71,73–76,82,83,88,92,93,104,105]. Of those, the majority showed a coexistence of positive and non-significant associations [35,46,52,57,62,70,71,73–76,88,93,104,105], and 4 studies reported the coexistence of a positive and a negative association [59,82,83,92]. Mixed results reflect the structure and methodology of the studies which gathered information on more than one outcome. One example is the study performed by Wong [89], which reports the effects of patient's expectations not only on GPs but also on nurses able to prescribe. Here the results reflect different categories of health professionals, with doctor's perception of patient expectations having a positive association with the probability of prescribing antibiotics, while nurses' perception of patients' expectations not having a significant influence on their decision to prescribe. Another example could be the study performed by Courtenay [73], which examines the effect of expectations for different medications. Results indicate that expectations for nose drops, pain killer and cough medication have a positive association with the doctor's prescribing behavior, but expectations for antibiotics do not have the same effect, resulting in a non-significant association.

Two other competing aspects, which led to mixed results, are presented in the article by Karras [46] where patient's expectations and the doctor's perception of those were both measured. Results show that actual patient's expectations have a non-significant effect on doctor's decision to issue a prescription, but the doctor's perception does. One last example of mixed results can be explained through the study performed by Strumilo [83], where researchers measured two opposing aspects: the direct request for antibiotics and the direct request not to receive antibiotics. In this case the request for antibiotics showed a positive association with the decision to prescribe, while the request not to prescribe showed a negative association.

3.5. Other influences on doctor's prescribing behavior

The complete list of significant covariates is reported in Table 2. The most cited one was, as one would expect, the patients' presentation and their symptoms. This factor reflects a general attitude of good practice, showing that doctors check for an indication rather than allowing patients' expectations to be the sole influence on their decision.

Another aspect which recurred on multiple occasions was related to costs, either for the healthcare system or on the individual patient. This result highlights the intermediary and gatekeeping role of doctors discussed above. When deciding what to prescribe, doctors take into account what kind of expenses their actions will generate and evaluate if their decision is the most appropriate one.

One last covariate was recorded on different studies under different labels and could be reported as GPs' attitudes and believes. This variable includes aspects of the personal sphere of doctors' practices. Some examples could be the GP's previous experience with a specific drug, their knowledge of the therapeutic alternatives, their attitudes towards different treatments or their predictions of the course of the illness. Even though these types of covariates were not as prevalent as those related to symptoms, it is still important to note that doctors do rely on personal experience, beliefs, and attitudes as part of their decision-making process.

4. Discussion and conclusion

4.1. Discussion

Disparities between patients and providers might stem from differences in knowledge and perception of illness severity, and they often give rise to issues like over and under prescription of medicaments.

The problematic aspect originates on a communicative ground, as the medical encounter serves as a platform wherein patients share their requests or expectations garnered from various sources, while physicians, equipped with professional training, are tasked with sifting through what is potentially beneficial from what may be not only irrelevant but also detrimental.

A study [111] demonstrated that some physicians strategically lie or withheld information when facing difficult encounters, basing their judgment on their personal perception of the desire and ability of the patient to emotionally handle information. Maintaining the role of informational gatekeepers is however becoming more and more problematic for doctors. Patients are nowadays well equipped and know how to navigate different kind of resources to find the information they need [112,113]. Technological advancements are increasingly making patients more informed, thereby challenging the traditional role of physicians as the bearer of medical knowledge [114]. This shift in the informational landscape reflects a broader transformation in the patient-physician dynamic, one that healthcare professionals must acknowledge and adapt to [115]. In many cases, patients' requests emerge directly from independently acquired information, underscoring the evolving nature of medical consultations.

Patient-initiated requests offer valuable insights into their expectations, helping physicians tailor their approach. However, requests not based on legitimate grounds present a challenge, requiring physicians to help patients reassess their knowledge. Unresolved divergences can lead to conflicting information, causing confusion and making it difficult for patients to make informed decisions. Additionally, conflicting guidance may erode the patient's trust in the physician. Addressing and resolving divergences in information and perspectives between patients and physicians is essential to ensure optimal patient outcomes and well-being [116,117].

This task is further elucidated by Schulz and Nakamoto [118]. The medical visit is not solely challenging due to medical tasks, but also because of its inherently communicative dimension. Patients' attitudes toward information seeking and acceptance may not align with the perspectives of healthcare providers. Depending on the patient's receptivity to information and their preferred communication style, physicians must adjust their approach to foster mutual understanding and promote collaborative decision-making.

The findings of this systematic review highlight the need to develop a more refined form of communication grounded in reliable sources that can be discussed openly and easily with patients to ensure better

Table 4
Assessment of patient's requests.

Author	Type of request	Patient recorded	Method	Measure	Doctor recorded	Method	Measure
Akkerman (A)	GP's perception of patient expectations	No			Yes	Questionnaire	GPs' perception of whether the patient expected an antibiotic. Definitely not [1] - Sure [5]
Akkerman (B)	GP's perception of patient expectations	No			Yes	Questionnaire	GPs' perception of whether the patient expected an antibiotic. Definitely not [1] - Sure [5]
Arney	Patient request	No			Yes	Questionnaire	"Think about the most recent interaction you've had with a patient who initiated a discussion about a prescription drug and told you he or she saw it advertised" Participants were asked questions on this encounter.
Arnold	Parental pressure	No			Yes	Questionnaire	Parental pressure: Yes/No
Basu	GP's perceived patient expectations	No			Yes	Questionnaire	Perceived social pressure arising from patient expectations, peer prescribing behavior, peer expectations, social and familial obligations, and as per the patient clinicodemographic profile
Beauvais	Patient request	No			Yes	Questionnaire	"Which situation led you to use the NGS mention?" - Patient request: when the patient objects to substituting the drug
Brabers	Patient request	Yes	Questionnaire	"When you contacted your GP regarding your illness, did you ask the GP for a prescription for an antibiotic?" Not at all [1] - totally [4]	No		
Britten & Ukoumunne	Patient expectations GP's perception	Yes	Questionnaire	Patient ideal expectations: whether the patient hoped for a prescription. Patient actual expectations: whether the patient expected that the doctor would give them a prescription	Yes	Questionnaire	Doctor's perception of: - whether the patient wanted a prescription -whether the doctor felt pressurized to write a prescription
Carlsen	Patient's preference	No			Yes	DCE	Patient prefers this medicine Patient does not prefer this medicine
Cham	Patient demand	No			Yes	Questionnaire	Patient demands influence my management of borderline vitamin B12 deficiency
Ciofi Degli Atti	GP's perception of patient expectations	Yes	Questionnaire	Perceived need for a drug Explicit request for a drug	Yes	Questionnaire	Perception of parental expectations regarding a drug prescription Explicit request for medicines influence on their treatment of parental expectations
Cockburn and Pit	Patient expectations GP's perception	Yes	Questionnaire	Rate of the extent to which they thought they needed medication for their condition (expected). Absolutely necessary [1] - Not at all [5] Preference for taking medication. Prefer to take [1] - prefer not to take [5]	Yes	Questionnaire	Rate of the extent to which they thought the patient expected a medication. No expectations at all [1] - a great extent [5] Rate the extent to which the patient expectations influenced their decision. No influence at all [1] - to a great extent [5]
Coenen (A)	Patient demand	No			Yes	Questionnaire	Patient demands for antibiotics. Yes / don't know / No Patient demands for other medication. Yes / Don't know / No
Coenen (B)	Patient expectations Patient Demand GP's perception	Yes	Patient diary	"Were you expecting your GP or nurse to prescribe antibiotics?" Yes / No "Were you hoping that your GP or nurse would prescribe antibiotics?" Yes / No "Did you ask your GP or nurse for antibiotics?" Yes / No	Yes (also nurses)	Case report form	Rate of the extent to which they felt the patient wanted them to prescribe antibiotics. Strongly agree [1] - Strongly disagree [5]
Courtenay	Patient expectations	Yes	Questionnaire	Expectations for medication. Yes / No	No		

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Table 4 (*continued*)

Author	Type of request	Patient recorded	Method	Measure	Doctor recorded	Method	Measure
Cutts	Patient expectations	Yes	Questionnaire	Ideal expectations: asked if they were hoping for a prescription. Yes / No / Maybe Actual expectations: asked if they thought it would be likely that the doctor would give them a prescription. Yes / No / Maybe	Yes	Questionnaire	Perception of patient expectations. Definitely wanted a prescription [1] - Definitely did not want a prescription [5]
Dietze	GP's perception of patient preference (for generics)	No			Yes	Questionnaire	"Do you feel your patients prefer generics drugs over brand-name drugs?" My patients prefer brand name drugs [1] - My patients prefer generic drugs [5]
Engel-Rebitzer	Patient preference x race	Yes	Questionnaire	Treatment preference. Five treatment modalities to choose from: -No pain medication - Nonopioid pain medication - Opioid medication for 1–3 days followed by nonopioid medication - Opioid medication for 4–5 days followed by nonopioid medication - No preference	No		
Epstein	Patient request	No			Yes	Audio recordings	Request type: - Brand specific request - General request
Esfandiari	Patient request	No			Yes	Questionnaire	Physician reported patient request: how often patient request the following: - Use of preparation other than synthetic T4 alone - Maintaining THS below normal - Adjusting thyroid hormone dose to treat symptoms - Adjusting thyroid hormone dose according to serum free T3 Almost always [1] - never [5]
Hendrikx	Willingness to change therapy	Yes	Questionnaire	Which of the following four answer categories best reflected their current outlook: - All is well regarding my arthritis therefore I want to alter / reduce my medication - All is well so I want to keep it the way it is - All is not well therefore I want to alter / increase my medication - All is not well but I want to keep my medication the way it is	No		
Himmel	Patient expectations GP's perception	Yes	Questionnaire	Preference for self-care Preference for drug treatment	Yes	Questionnaire	What in his / her opinion, each patient had expected
Hoffman	Patient expectations GP's perception	Yes	Questionnaire	"Do you feel that antibiotics will help this illness?" Yes / No Don't Know "Do you expect the doctor to give you antibiotics" Yes / No / Don't know	Yes	Questionnaire	"Was an antibiotic expected by the patient?" Yes / No "Did you feel pressurized to prescribe an antibiotic?" Yes / No
Holloway	Patient expectations	Yes	Focus groups (qualitative data) and interviews (quantitative data)	Patient demand in terms of patient expectations about the number and type of drug the needed	Yes	Interviews	Patient demand in terms of patient expectations about the number and type of drug the needed
Hooper	Patient expectations	Yes	Questionnaire	"Do you think you should have been given a prescription?" Yes / No	No		
Huang	Patient demand Patient pressure	No			Yes	Questionnaire	"Patients attending this ED are demanding about their treatment (including requesting for antibiotics for URTI)." Strongly agree [1] – Strongly disagree [5] "I will prescribe antibiotics for URTI patients if they or their relatives demand for them." Strongly agree [1] – Strongly

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Table 4 (*continued*)

Author	Type of request	Patient recorded	Method	Measure	Doctor recorded	Method	Measure
							disagree [5] "To maintain good relationships with patients, I will prescribe antibiotics for patients with URTI who demand for them." Strongly agree [1] – Strongly disagree [5] "I will prescribe antibiotics for URTI patients who demand for them when I have many patients waiting to be attended to." Strongly agree [1] – Strongly disagree [5] "I will prescribe antibiotics for URTI patients if they or their relatives ask for them." Strongly agree [1] – Strongly disagree [5] "I will prescribe antibiotics for URTI patients who are anxious about their condition." Strongly agree [1] – Strongly disagree [5] "I will prescribe antibiotics for URTI patients if I think patients or their relatives expect them." Strongly agree [1] – Strongly disagree [5]
Hummers-Pradier	Patient expectations	Yes	Questionnaire	Drug desired	Yes	Questionnaire	Whether the patient had expressed expectations of a drug
Hupert	Patient demand	No			Yes	Daily census of kept visits	Whether the patient initiated a discussion about bioterrorism and asked for antibiotics
Hwang	GP's perceived patient demand	No			Yes	Questionnaire	"Do you think that patients who visit your clinic want you to prescribe injection drugs?" Strongly agree [5] - strongly disagree [1] "Do you think that the prescription of injections makes your patients psychologically comfortable?" Strongly agree [5] - strongly disagree [1]
Jakobsen	GP's perceived patient preference (for antibiotics)	No			Yes	Questionnaire	"The patient wanted me to prescribe an antibiotic". Agree / not agree
Jones	Patient demand	No			Yes	Questionnaire	Barriers to prescription: Lack of patient demand
Kandeel	Patient preference	Yes	Interviews	Caregiver or patient preference to be treated by an antibiotic. Yes / No	No		
Karras	Patient expectations	Yes	Pre and post encounter questionnaires	what expectations for the visit: - Receipt of intravenous fluids - Hospitalization - Prescription of antibiotics - Prescription of antiemetics - Prescription of antimotility agents	Yes	Questionnaire	Asked about the prescription and the related factors
Kittner	Patient demand	No			Yes	Questionnaire	Patient demand for therapy. None (0) - high [4]
Kravitz (A)	Patient demand	No			Yes	Questionnaire	Demands of the visits. Far less demanding than the typical visit [1] - far more demanding [5]
Kravitz (B)	Patient request	Yes	Standard patient	Major Depression / adjustment disorder Brand specific request Generic request No request	No		
Kumar	Patient request	Yes	Questionnaire	Whether a request for antibiotics was made	Yes	Questionnaire	Whether a request for antibiotics was made
Kwan	Patient demand	Yes	Standard patient	Demand for amoxicillin Demand for albendazole	No		
Lado	Patient expectations GP's perception	Yes	Pre visit interview	Pre visit expectations	Yes	Questionnaire	Number of medications expected by the patient
Lauridsen	Patient expectations	Yes	Questionnaire	"I primarily saw my GP because I wanted to be trated with antibiotics." Totally	No		

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Table 4 (*continued*)

Author	Type of request	Patient recorded	Method	Measure	Doctor recorded	Method	Measure
				agree [1] - totally disagree [5]			
Leung	Patient preference	Yes	Questionnaire	How willing they were to try medication and psychotherapy for their depression. Unwilling (0) - completely willing [10]	No		
Linder	Patient desire	Yes	Questionnaire	"I want antibiotics for my illness today." Strongly agree [1] - Strongly disagree [5]	No		
Little	Patient expectations GP's perception	Yes	Questionnaire	whether they were hoping for a prescription	Yes	Questionnaire	How much pressured they felt from patients
Llor (A)	Patient request	No			Yes	Questionnaire	Whether the patient requested an antibiotic or not
Llor (B)	Patient request	No			Yes	Questionnaire	Whether the patient requested an antibiotic or not
Lum	Patient request	No			Yes	Interviews DCE	Patient says they want antibiotics
Macfarlane	Patient demand Patient expectations	Yes	Questionnaire	"Do you want a prescription for antibiotics from your GP today?" Yes / No / Not thought about it "Did you expect your GP to give you antibiotics for your symptom today?" Yes / No / Not thought about it "Did you ask your GP for an antibiotic today?" Yes / No / Not thought about it	Yes	Questionnaire	Non clinical factors influenced decision to prescribe antibiotic: Patient expectations or pressure
Mangione-Smith	Parent expectations GP's perception	Yes	Questionnaire	Parental expectations for receiving antimicrobials. Definitely necessari [1] - Definitely unnecessari [5] Parent attitudes toward prescribing. Score 0–100, high score = wants antibiotic	Yes	Questionnaire	"The parent expected me to prescribe antibiotics". Strongly agree [1] - Strongly disagree [5]
McKinlay	Patient request	No	Two clinically authentic video-based scenarios	Sciatica patient: - Oxycodone request - Generic pain relief Osteo arthritis patient: - Celebrex request - Generic pain relief	Yes	Semi-Structured interview	Presentation style: Active / passive request
Mintzes (A)	Patient request	Yes	Questionnaire	Frequency of patient requests and prescriptions resulting from patient requests	Yes	Questionnaire	Frequency of patient requests and prescriptions resulting from patient requests
Mintzes (B)	Patient request	Yes	Questionnaire	Expectations of the consultations	Yes	Questionnaire	The patient has "raised the possibility" of using a drug / The patient has directly requested the drug / both
Moro	Parental expectations GP's perception	Yes	Pre visit interview	Parental expectations: "Do you think your child needs an antibiotic today?" Yes / No / I don't know	Yes	Questionnaire	"Was the parent expecting an antibiotic?" No / Yes / Don't know
Morrell	Patient preference	No			Yes	Questionnaire	Patient opinion on antibiotics: - Preference to have antibiotics - No preference expressed - Preference no to have antibiotics
Nazareth	Patient request	No			Yes	Questionnaire	Whether the patient had requested antibiotics
Ong	Patient expectations GP's perception	Yes	Pre visit interview / questionnaire	Patients asked about their expectations for medical care during the visit. Patient asked about whether they believed that any medications would be important in shortening the duration of their illness	Yes	Interview	Whether the patient seemed to expect any medication. Whether the patient asked for any medication
Pareek	Patient request	No			Yes	Physician panel managed by a marketing research firm	Report of any drug requested by patients
Patel	Patient request	No			Yes	Questionnaire	Questions on the importance of some factors during the visit: Patient asks for antibiotics. Not important [1] - extremely important [4]

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Table 4 (*continued*)

Author	Type of request	Patient recorded	Method	Measure	Doctor recorded	Method	Measure
Perera	Patient expectations and Parent's expectations	Yes	Questionnaire pre and post intervention	Level of agreement with the statement: "I wish to receive an antibiotic for my flu or my child's flu" 7 points likert scale	No		
Ridge	Patient preference	Yes	Interviews	Patient preference ratings for buprenorphine and methadone. 5-point likert scale	No		
Rodriguez	Patient request	No			Yes	Questionnaire	Patient request for nPEP in the past 6 months
Sanchez-Menegay	Patient expectations	Yes	Questionnaire	Question about expectations for a prescription. Not important at all [1] - extremely important [4]	No		
Sirota	Patient expectations	Yes	Vignette	Experiment 1: Mother presenting low or high expectations for antibiotics Experiment 2: Patient presenting with high or low expectations for antibiotics - Incoming competition - Burden of symptoms of a cold	No		
Stremersch	Patient request	SP			Yes	Dataset	Number of patient drug requests
Sydenham	Patient expectations	No	DCE scenario questionnaire	The patient's expressed expectations of antibiotics. Two levels: 0: Does not express expectations of antibiotics 1: express expectations of antibiotics	No		
Teng	GPs' perception of patient expectations	No			Yes	Questionnaire	"How often to your patients request for an antibiotic when consulting for you for URTI?". Very often / sometimes / seldom
Timpka	GP's perception of patient expectations	No			Yes	Questionnaire	Asked to estimate their impression of the patient's desire for medical intervention on a visual analog scale
Toska	Patient or parental demand	No			Yes	Questionnaire	Asked weather their prescribing habits are influenced by patient or parental demand. Never / rarely /often / very often
Tracy	Patient request	No	Scenarios	Scenario of patients wondering about / requesting / demanding / medical intervention	No		
Venkataraman	Patient request	No			Yes	Panel data	Patient requests defined as the total number of patient requests for brand j at time t for physician p.
Virji	Patient expectations	Yes	Questionnaire	Whether patient expected or not a prescription that day	No		
Vonferber	Patient expectations and patient desire	Yes	Interviews and questionnaire, pre and post visit	asked about: Overall expectations for the visit "I expect from the doctor today that he…" Medication expectations: "I am certain that my doctor will prescribe me medication today" Desire for drugs: "I need a prescription for medication today, if yes, which drugs"	No		
Wagner	Patient demand	Yes	SP of parent asking antibiotics or ORS for the child with diarrhea	ORS Preference: "Doctor, my child has been suffering from diarrhea for the last two days. I have heard that we can use a salt and sugar powder in a packet. This is what I used last time but I don't have any left-over (show picture of empty ORS packet). Can I just use this again?" Antibiotics Preference: "Doctor, my child has been suffering from diarrhea for			

(*continued on next page*)

Table 4 (*continued*)

Author	Type of request	Patient recorded	Method	Measure	Doctor recorded	Method	Measure
				the last two days. This is what I used last time but I don't have any left-over at home [show picture of antibiotic]. Can I just use this again?"			
Walley	Patient demand	No			Yes	Questionnaire	Asked about barriers to prescribing buprenorphine "Have you experienced any of the following barriers to the provision of buprenorphine treatment?" including "low patient demand"
Wang (A)	Patient request	No	SP with flu-like complaints	SPA: Just complain about symptoms SPB: ask for antibiotics SPC: show knowledge on antibiotic use	No		
Wang (B)	Patient expectations	No			Yes	DCE	Patient expectations are operationalized via patient's expressed pressure asking for antibiotics or a check-up
Webb	Patient expectations	Yes	Questionnaire	"How do you think the doctor will be able to help you with your problem?" tick the following applicable: give you a prescription			
Weiss (A)	Patient demand				Yes	Questionnaire	"Over the past few years there has been an increasing number of patients who are demanding during the consultation." Strongly agree [1] - strongly disagree [5] "Demanding patients mean I have less time to devote to more important clinical matters". Strongly agree [1] - strongly disagree [5]
Weiss (B)	Patient expectations	Yes	Questionnaire	"Did you expect to receive a prescription for these symptoms?". Yes / No "Did you feel you would benefit from an antibiotic?". Yes / No " To what extent, if at all, do you think antibiotics might help your symptoms?". Absolutely necessary [1] - not necessary [5] "Did you actually ask the doctor or nurse for an antibiotic?" Yes / No	Yes (also nurses)	Questionnaire	"To what extent did you feel the patient expected anantibiotic?" Extremely [1] - not at all [4] "To what extent did patient expectation for anantibiotic influence your decision to prescribe?" Extremely [1] - not at all [4]
Wong	Patient expectations, patient request and GPs perception of patient expectations	Yes	Daily diary	Patients view on antibiotic prescription: - Anticipation - Expectation - Request	Yes	Questionnaire	Perceived patient expectations

Source: [The authors' work on the selected papers]

acceptance. Some models of this kind have already been mentioned in the introduction, EBM and the SDM approach serve as a key reference point. SDM models are intended to guide patients in evaluating their options by integrating medical evidence with their personal experiences and preferences [23,25]. Building on this foundations, various communication strategies and patient interaction guidelines have been designed to equip physicians with appropriate tools, such as the Calgary-Cambridge Guides to the medical interview by Kurtz et al. [119], Smith's Patient-Centered Interviewing [120] and the Four Habits model by Frankel et al. [121]. However, the findings of the present review suggest a dysfunction in these systems, as the roles appear to have reversed, with patients leading physicians toward fulfilling their expectations rather than being guided through an informed decision-making process. This study exposes a gap in the current system: while existing patient-physician communication models are theoretically promising, their practical implementation appears to be inadequate. Moreover, even though one essential step of SDM is eliciting patient preferences, but a recent study argues on the a lack of application of the model [122]. It seems that SDM might need some further development to guide better physicians through their daily challenges, especially for what concerns problem solving situations that do not rely solely on the weighting of pros and cons [123]. Another study [124] highlights the need to focus more on a purposeful advancement of SDM and its measurement tools that should be rooted in four modes, each pertaining to a different approach to problem-solving, such as weighing, negotiating, problem-solving, and insight development.

The results underscore the need to introduce specialized training programs to enhance tailored communication skills among general practitioners. These programs could incorporate both digital and non-digital resources to facilitate structured patient interactions and

controlled access to medical information, thereby promoting a more balanced and evidence-informed dialogue between physicians and patients.

The results of this systematic review confirm the hypothesis that patient requests are positively associated with doctor's prescribing behavior, an association that extends to all drugs included in our research. Fulfilling patient requests appears to have become a driver for medical decision-making, possibly due to the conflict between medical professionalism and patient empowerment.

Overprescription is always a negative and wasteful behavior, but this concern is heightened by the global threats posed by antibiotic-resistant bacteria and the persistent upward trend in opioids addiction rates [125]. Granting patient requests too readily might lead to medicalization, a phenomenon primarily studied in the sociology of medicine, which involves the creation of medical needs that are products of modern society and repetitive behavior in the medical field [126]. The main implication of this context is relational, as the patient-provider relationship becomes contaminated by a lack of trust. Patients rely more and more on information that is found online or, where allowed, in Direct-to-consumer advertising (DTCA) and when their expectations are not met the consequence is a feeling of mistrust towards healthcare providers [127]. This dynamic is economically disadvantageous because marketing costs are directly reflected on the prices of drugs and healthcare. The risk is the one of reinforcing an overly dominant role for the patient and their expectations in medical consultations and health-related decisions, while diminishing the physician's role to that of a service provider disproportionately influenced by patient preferences [128]. Emphasizing the negative aspects, Salmon, in his forthcoming article [129], suggests that we are moving toward consumeristic medical interactions, where doctors are "reduced to offering a cafeteria of services from which patient-costumers can select"

Moreover, patients who have had their requests for antibiotics fulfilled once are likely to believe that antibiotics are the appropriate remedy for their symptoms and will present the same request in the future when facing similar health situations. Consequently, the patient-provider interaction becomes a conditioning cycle. The goal should be to minimize conflict or patient dissatisfaction by engaging in more empathetic and effective communication, fostering mutual respect for a successful collaboration and positive health outcomes.

Findings from this review indicate a trend that should be closely monitored and counteracted. While acknowledging patient preferences is important, it is crucial to ensure that requests do not become the main driver of physicians' decision-making process. Especially within the realm of prescription drugs, physicians must maintain their autonomy and adhere strictly to their responsibilities and guidelines. They should also feel empowered enough to decline patient requests when deemed clinically inappropriate.

Another element that resulted from this study is a disparity between explicit expectations of patients and the corresponding perception of physicians. The evolution of the field may have led physicians to overestimate patient expectations, resulting in misunderstandings that impact the delivery of optimal care. Given the inherent difficulty in identifying patient expectations, a direct inquiry approach emerges as the most effective strategy because explicit requests reflect an authentic patient need and are almost impossible to overestimate. They foster opportunities for discussion about the most suitable therapeutic approach. Recent research underscores the constructive impact of patients' direct requests, which help physicians decipher patient expectations without relying on subjective assumptions or personal beliefs [20].

This approach helps patients better understand medical concepts, empowering them to engage confidently in discussions with doctors. Physicians must address patient requests with empathy and expertise, reducing the pressure of demands. Viewing requests as a starting point for dialogue, rather than perceiving them as a source of tension or coercion, would foster a collaborative healthcare environment, where patient satisfaction is prioritized alongside clinical efficacy, ultimately leading to more meaningful and impactful interactions.

4.2. Strengths and limitations

One limitation of this study is that most articles assessed patient requests as a doctor's recorded variable, with fewer focusing on requests assessed by patients or both parties. Future research should investigate each participant in the interaction to better understand the underlying mechanisms. The search was limited to English-language articles, potentially excluding valuable research in other languages. Even though this choice has imposed the exclusion of valuable literature from the introduction or the discussion, such as the handbook la communication professionnelle en santé [130], it allowed us to narrow the focus on research that was intended for a broader audience. The decision to focus on quantitative research is a further limitation, including linguistic and sociological studies could have broadened the scope of the study. We do recognize the great work that has been done in these fields over the topic, but we believe that this stream of research would deserve a separate study with a research question that does not focus on objective and measurable outcomes. The focus of the research was based on a general medicine context, future studies might also want to explore the same behavior in different contexts, for example examining the request of inpatients, to provide a comparison based on different contextual factors. One conceptual limitation of the study is the focus on patients' request, excluding other kind of interactions. One example is aggressive behavior, which conceptually is different from a request, but can nonetheless pressure doctors in a similar way. By focusing on request, we wanted to highlight one behavior that is acceptable within the consultation process, while aggressive behavior should never be expected or excused. Because of this conceptual difference we decided to discard any behavior that was not strictly falling under the definition range of requesting behavior.

One strength of the study lies in the methodology, which was performed blindly by different researchers reducing the risk of bias in the selection of articles, the quality assessment, and the data extraction process. Another strength lies in the number and variety of articles retrieved. Considering the limitations, this study was still able to represent different locations all over the world and to report on request of many types of medicaments, allowing for great generalizability of results.

4.3. Conclusion

Patient and provider can be described as two different communities, each with distinct backgrounds and knowledge. The medical encounter is where an effective bridge between them is formed. Results from this systematic review indicate that patients' request do influence doctors' prescribing behavior. This dynamic seems to describe an emerging new approach to medicine, evolving from shared decision-making into an interaction that resembles negotiation.

The evolution of the encounter could be positive, as it means that patients feel empowered enough to anticipate doctors with specific requests. However, it also presents some threats. One issue arises when doctors become accustomed to responding to patients' requests. This dynamic could be detrimental to communities that are not used to making requests or are not empowered enough to do so, as their expectations and attitudes might go unnoticed if not explicitly expressed. Another issue lies in patients' expectations, which are not always based on accurate information.

High responsiveness to patients requests from doctors is the result of extensive research in the field, highlighting the pivotal role of communication and mutual understanding. As a new paradigm for patient-provider interaction emerges, the tools previously used need to evolve and adapt. In his forthcoming article [129], Salmon suggests that a solution might lie in exploiting a more relational approach in which patients' autonomy is aligned with the level of trust they have in their

general practitioner. In this scenario the doctors are once again the ones having the last word on treatment, as it might not be beneficial to burden the sick patients with the responsibility of deciding on their own health. Compared with paternalism, the relational approach puts at the center the respect of the interests of patients, as doctors' decision-making process should not be based on their personal beliefs and attitudes, but should accurately reflect the patients' expectations and preferences, an approach that necessitates a deeper and more personalized understanding of individual patients, thereby underscoring the relational dimension of the medical consultation.

4.4. Practice implications

Results from this study call for a focus on strategies and tools that would better equip doctors to manage communication during medical encounters. In particular, when a request is based on inaccurate information, doctors need to be better prepared to respond adequately, correcting the patient while acknowledging their needs and maintaining their trust [131]. As reported by Jones et al. [132] physicians should be challenged into changing their perspective around the provision of patient information and instead of perceiving it as a burden it should evolve into a central mechanism of the visit and the interaction with patients. Medical training should also keep into account the evolving landscape and the economic and political forces at play behind pharmaceutical industries, as Faunce and Gatenby [133] suggest, part of the medical training should include a focus on ethics and health law.

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CRediT authorship contribution statement

Rinaldi Aline: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Bullo Anna:** Writing – review & editing, Visualization, Validation, Supervision, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Schulz Peter Johannes:** Writing – review & editing, Validation, Supervision, Resources, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix

Search strings across databases

Pubmed:

((("patient* expectation*"[Title/Abstract] OR "patient* desire*"[Title/Abstract] OR "patient* request*"[Title/Abstract] OR "patient* demand*"[Title/Abstract]) OR (("Patients"[Mesh]) OR "Patient Preference"[Mesh])) AND ((Prescription*[Title/Abstract] OR medication*[Title/Abstract]) OR (("Prescriptions"[Mesh]) OR "Pharmaceutical Preparations"[Mesh]))) AND ((doctor*[Title/Abstract] OR GP[Title/Abstract] OR "general practitioner*"[Title/Abstract] OR nurse[Title/Abstract] OR physician*[Title/Abstract] OR "healthcare operator*"[Title/Abstract]) OR ((("Physicians"[Mesh]) OR "Health Personnel"[Mesh]) OR "Nurses"[Mesh]))

Scopus:

TITLE-ABS-KEY("patient* expectation*" OR "patient* desire*" OR "patient* request*" OR "patient* demand*" OR "Patient Preference") AND TITLE-ABS-KEY(Prescription* OR medication* OR "Pharmaceutical Preparations") AND TITLE-ABS-KEY(doctor* OR GP OR "general practitioner*" OR nurse OR physician* OR "healthcare operator*" OR "Health Personnel") AND (LIMIT-TO (LANGUAGE,"English"))

Communication mass media complete: 21.02.2023, 377 results:

("patient* expectation*" OR "patient* desire*" OR "patient* request*" OR "patient* demand*" OR "Patient Preference") AND (Prescription* OR medication* OR "Pharmaceutical Preparations") AND (doctor* OR GP OR "general practitioner*" OR nurse OR physician* OR "healthcare operator*" OR "Health Personnel")

PsychInfo:

("patient* expectation*" OR "patient* desire*" OR "patient* request*" OR "patient* demand*" OR "Patient Preference") AND(Prescription* OR medication* OR "Pharmaceutical Preparations") AND (doctor* OR GP OR "general practitioner*" OR nurse OR physician* OR "healthcare operator*" OR "Health Personnel")

CINHAL:

("patient* expectation*" OR "patient* desire*" OR "patient* request*" OR "patient* demand*" OR "Patient Preference") AND(Prescription* OR medication* OR "Pharmaceutical Preparations") AND (doctor* OR GP OR "general practitioner*" OR nurse OR physician* OR "healthcare operator*" OR "Health Personnel")

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