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Methodological - Theoretical approach to phenomenological studies on the experience of medication use: A systematic review

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ABSTRACT

Background: The study of medication use should include pharmacological, family, and social dimensions to explain how the lived experiences, beliefs, and perceptions of everyone, and their social and cultural environment affects consumption, using for this purpose the qualitative approach.

Objective: To conduct a systematic review of the theoretical-methodological approaches to phenomenology to identify studies that allow an understanding of patients' experiences with the use of medications.a.

Methods: A systematic literature search was conducted following the PRISMA guidelines to identify studies that address phenomenological research on patients' experiences of medications used and to apply them in subsequent studies. A thematic analysis was performed using ATLAS.ti software to facilitate data management.

Results: Twenty-six articles were identified, most of them including adult patients diagnosed with chronic degenerative diseases. The semantic network obtained places Phenomenology at the center as the interpretative referential framework, with three theoretical approaches: descriptive, interpretative, and perceptual under the philosophies of Husserl, Heidegger, and Merleau-Ponty respectively; two techniques to collect data which are indepth interview and focus groups; and to explore the life experiences of patients and understand the meaning in the context of their lives, thematic analysis, content analysis, and interpretative phenomenological analysis were identified.

Conclusions: It was evidenced that Qualitative Research approaches, methodologies, and techniques are applicable to describe people's experiences towards the use of medications. Phenomenology constitutes a useful referential framework in qualitative research to explain the experiences and perceptions about the disease and the use of medicines.

1. Introduction

The use of drugs constitutes one of the main practices within therapeutics and when used correctly helps to cure diseases, alleviate symptoms, or prevent illnesses. However, the irrational use of drugs is a problem in most health systems, especially in developing countries. Data from the World Health Organization (WHO) indicate that every hour about 1,150 people die due to lack of access to medicines for curable diseases, that more than half of the medicines are prescribed, dispensed, or sold incorrectly, and that about 50% are not taken correctly, as a result, neither the patient nor society obtains optimal

results from the medicines. ^{1–3} WHO recognizes that several factors determine the rational use of medicines, including lack of access, purchasing power, the increasing prevalence of chronic diseases, cultural and political conditions, and the absence of clear and accurate information for health professionals and patients. ^{4,5}

In the same way that health has changed in its conceptualization, ⁶⁻⁸ the rational use of medicines (RMU) must adopt a broader vision from a medical, cultural, economic, and social perspective, where it is possible to explain how the perceptions of each individual and his or her social and cultural environment can affect the consumption of medicines. ^{9,10}

Unfortunately, drugs are part of our daily lives, however, it is

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important to understand not only why and how they are administered, and although it seems obvious, it is an area full of doubts because studies on the use of drugs have focused on assessing drug consumption, its adverse or beneficial effects, but have not taken into account social aspects that can explain how the perceptions of each individual, their social and cultural environment can affect the consumption of drugs. ¹¹

The intervention of the pharmacist can facilitate compliance with treatment because of his or her proximity to the patient, as well as their family and social environment, knowledge of the medications, and also because the pharmacist is the last health professional with whom the patient establishes contact before starting treatment, and they can provide the necessary information about the disease, medications, interactions and possible adverse reactions to encourage compliance with the medication; however, the pharmacist should consider the experiences, beliefs, and expectations of patients about their disease and the use of medications, to design a pharmaceutical care plann. 12-14

It is precisely the integrative vision that pharmaceutical practice must to consider the bio-psycho-social condition of the patient as well as the economic and environmental factors and their socio-behavioral behavior in the promotion of RUM, which gives rise to Social Pharmacy as a hybrid multidisciplinary discipline that draws on the theories and methodologies of the social and behavioral sciences for understanding the use, effects and benefits of medications ^{15–17} incorporating qualitative techniques in the Health Sciences. ^{10,18} If a pharmacy professional understands patient behavior concerning health and disease and medication administration, they will be better prepared to assist individuals in decisions to make changes in their behaviors and medication adherence. ^{14,19}

Qualitative research in the pharmaceutical field has increased in recent years^{20,21} delving deeper into the social aspects related to health, 22 allowing to know patients in greater depth, evidencing their experiences in the use of medications and achieving more effective and safer use of medications. ²³ Despite the publications that promote the use of qualitative methods in pharmaceutical practice, there has been an omission of fundamental aspects such as the interpretative frameworks and philosophical paradigms²⁴ that underpin qualitative research; it is necessary to understand these aspects to base the choice of methodology and data collection. ^{25,26} In qualitative research it is important to select a research approach to achieve methodological congruence, ²⁶ there is no one right way to do qualitative research; some approaches are more appropriate than others depending on the problem statement and the research objective. However, once an approach has been identified, the philosophical, epistemological, and methodological assumptions that contribute to the quality of the research should be clarified.

In recent years, conventional qualitative approaches and their philosophical paradigms are increasingly used in pharmacy. Creswell, in 2013 defined five approaches to qualitative research: grounded theory, discourse analysis, ethnography, case studies, and phenomenology, the latter of which allows the study of how people make sense of their lived experiences. 26,28,29

Phenomenology can contribute to the understanding of medication use experiences as they influence patients' decision-making about prescribed medications; in many occasions, these decisions are based on the balance between the benefits and risks of medication use in daily life, so the planning of a pharmaceutical care program should be based on both biopsychosocial needs, pharmacological needs, and patients' behaviors. ^{30–34} The findings of the review will help to identify the current status of research on the theoretical and methodological postulates used in phenomenology applied to the investigation of experience in the use of medicines, so the objective of this paper is to conduct a systematic review of the theoretical and methodological approach of phenomenology following the PRISMA guidelines to identify studies that allow understanding the experiences of patients with the use of medicines and to use them in future research applied to pharmaceutical practice.

2. Methods

2.1. Review design and search strategy

A systematic search of articles published according to the criteria of the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)³⁵ statement and the PICO strategy modified for a qualitative question^{36,37} was carried out from January 2010 to July 2022 in databases such as Science direct, PubMed, LILACS, Wiley and Springer Link, these databases were chosen because they include a large number of articles in the area of health sciences.

The search was performed using the PICO strategy using the terms: "phenomenological approach", "medication experience" and "rational medicines use"; when using "OR", "AND" and "NOT", the resulting search strategy was: ("phenomenology" OR "phenomenological approach") AND ("medication experience" OR "medicines use"). Filters applied during the searches included published and English-language articles.

The general process for identifying relevant documents: (i) literature search in selected databases; (ii) export of results to a reference management software (Mendeley) and removal of duplicates; (iii) selection of abstracts considering the inclusion, exclusion criteria, and the research question through the PICO strategy, this was performed by two members of the research group using Rayyan software; iv) conflict review by a third member of the group; selection of relevant articles from a full-text reading of the papers through two members of the working group; v) conflict review by a third member of the team; vi) identification of any additional relevant papers using the snowball technique. ³⁸

2.2. Eligibility criteria

2.2.1. Inclusion criteria

- Research articles published in English with full text, published between 2010 and July 2022.
- Articles published in peer-reviewed journals.
- Studies with qualitative methodology and phenomenological approach.
- Studies with research results related to patients' experiences with their pharmacological treatment.

2.2.2. Exclusion criteria

- \bullet Review articles, letters to the editor, books, editorial.
- Articles that do not include drug therapy patients or the participation of health professionals.
- Articles with a phenomenological approach directed to areas other than pharmaceutical sciences.

2.3. Selection

After the literature review, the articles were subjected to an initial selection of titles and abstracts, followed by a full-text selection; all articles were reviewed independently by the authors, and differences were resolved by discussion and consensus.

The selection of abstracts was carried out considering the inclusion and exclusion criteria and the research question through the SOP strategy, 37 in this process duplicate references were obtained. After the selection of the abstracts, the full texts of the articles previously identified were selected. The selection of full text followed the same principles as the selection of abstracts.

2.4. Data extraction

Data were extracted from eligible papers by two reviewers using a standardized format based on the PRISMA statement where various information was collected, and a third member of the group resolved disagreements. The research articles identified: author, date of publication, country, or state where the research was conducted, objective, methodology, results, and conclusions.

2.5. Evaluation of methodological quality

The quality of the articles was evaluated by the first author and then verified by the rest. The articles were evaluated using the JBI (Joanna Briggs Institute) Critical Appraisal Checklist for Qualitative Research. ³⁹ This instrument was used to evaluate the methodological quality based on an analysis of the following elements in the form of questions (Q): Q1: Is there congruity between the stated philosophical perspective and the research methodology Q2: Is there congruity between the research methodology and the research question or objectives? Q3: Is there congruity between the research methodology and the methods used to collect data? Q4: Is there congruity between the research methodology and the representation and analysis of data? Q5: Is there congruity between the research methodology and the interpretation of results? Q6: Is there a statement locating the researcher culturally or theoretically? Q7: Is the researcher's influence on the research, and vice-versa, addressed?

Q8: Are participants, and their voices, adequately represented? Q9: Is the research ethical according to current criteria or, for recent studies, evidence of ethical approval by an appropriate body? Q10: Do the conclusions drawn in the research report flow from the analysis or interpretation of the data?

All those articles with a positive score in 80% of the items were included.

2.6. Data synthesis and analysis

All the articles were imported from Mendeley, and a first review was performed with the corresponding labels, then they were exported to the Rayyan software to perform the preliminary descriptive analysis.

Subsequently, the articles were imported into the ATLAS.ti software, for which a codebook was previously elaborated and added to the software, a modified grounded theory approach was used, ⁴⁰ o identify the main categories. For the coding of results, a combined inductive-deductive approach was used, using a combination of manual coding and emergent coding.

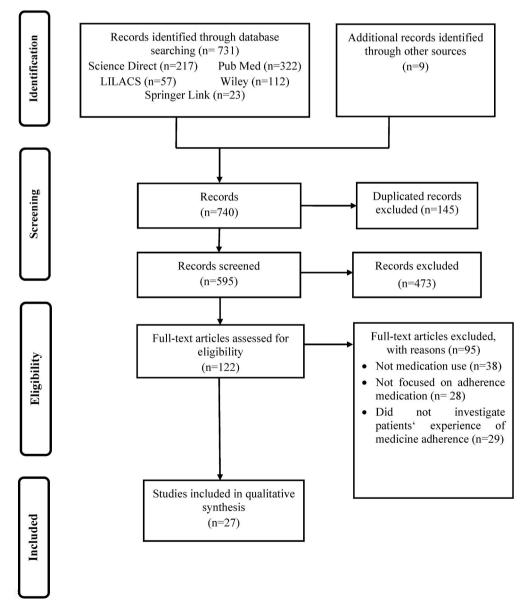


Fig. 1. PRISMA flow diagram, based on. 35

3. Results

3.1. Search results

Fig. 1 shows the procedure carried out for the selection of articles that make up the systematic review; the search for information in the databases resulted in a total of 731 documents. With the support of the Mendeley software, 145 duplicate records were eliminated, leaving a total of 595 documents. These were entered into Rayyan for review by title and abstract, leaving 122 articles reviewed in full text. After reading the 122, 95 were excluded, leaving 27 final articles. With these selected documents, we proceeded with the construction of the summary table of the final articles (Table 2).

3.2. Methodological quality

The methodological evaluation of the articles was carried out with the JBI-Qualitative Critical Appraisal Checklist instrument; the 27 articles obtained a positive score in more than 80% of the questions, the results are shown in Table 1.

3.3. Thematic analysis

A network analysis was performed in ATLAS.ti, Fig. 2 shows the relationships between the codes, which allowed a quick and hermeneutic approach to understanding the relationships between the main themes identified in the selected articles and allowed a complete view of the theoretical and methodological contribution of phenomenology to the identification of experiences in the use of medicines.

3.4. Characterization of included studies

In the studies reviewed, it was identified that one of the health professionals involved in the pharmacological treatment of the patients treated was the physician $^{41,43,48,53,55,58,60-65}$; however, the common participation of physician and nurse (n = 10) was mostly identified. $^{42,44,45,47,50-52,56,57,59}$ While the individual participation of

the pharmacist was not identified, it was identified in conjunction with the physician (n=2), 46,66 with the nurse $(n=1)^{54}$ and in collaboration with the physician, pharmacist, and nurse (n=1). In another case, the participation identified was MPH and MDiv (n=1).

3.5. Characteristics of the participants

Most studies included adult patients (over 18 years of age) (n = 20). Two studies included patients younger than 18 years who had been diagnosed with hemophilia and juvenile idiopathic arthritis 57,64 whose parents oversaw their treatment and therefore needed support. The number of participants identified in the studies ranged from 6 to 41. Most of the patients had been diagnosed with chronic degenerative diseases, the greatest number corresponding to those diagnosed with HIV (n = 3), 44,45,50 diabetes mellitus (n = 3) 48,49,52 and systemic lupus erythematosus (n = 2), 41,55 in addition to finding one study with patients with COVID-19. 62

3.6. Type of phenomenology

The interpretative referential framework of all the selected articles was Phenomenology, which has different theoretical approaches, highlighting the interpretative (n = 9), $^{41,43,45,47,50-52,57,60,62-64,66}$ descriptive (n = 11) $^{42,44,48,49,51,53-56,59,61,65}$ and perception (n = 2) 46,58 ; in one of them the first two were used: interpretative for careers and descriptive for patients. 51

3.7. Data collection technique

Three techniques were identified as being used for data collection: semi-structured interview (n = 11), $^{41,48,50,53-57,59,60,62-65}$ in-depth interview (n = 9), $^{42-47,51,52,58,61,66}$ and focus groups (n = 2) 49,54 ; the latter two were used in only one study. 54

3.8. Data analysis procedure

In the studies reviewed, it was identified that the following were used

 Table 1

 Results of the critical analysis of the articles included in the study with the "JBI-Qualitative Critical Appraisal Checklist" tool.aip

No.	Autor	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	T
1	Hale et al., 2015	Y	Y	Y	Y	Y	U	Y	Y	Y	Y	9
2	Hanna et al., 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
3	Jin & Acharya 2016	Y	Y	Y	Y	Y	Y	U	Y	Y	Y	9
4	Lee et al., 2008	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
5	Mohammadpour et al., 2010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
6	Nascimento et al., 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
7	Sahile et al., 2018	Y	Y	Y	Y	Y	Y	U	Y	Y	Y	9
8	Sherman & Williams 2018	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
9	Shiyanbola et al., 2018	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
10	Shore et al., 2020	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	9
11	Todd et al., 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
12	Dalvi & Mekoth 2017	Y	Y	Y	Y	Y	Y	Y	Y	U	Y	9
13	Srimongkon et al., 2018	Y	Y	Y	Y	Y	Y	U	Y	Y	Y	9
14	Rathbone et al., 2021	Y	Y	Y	Y	Y	Y	U	Y	U	Y	8
15	Leung et al., 2021	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
16	Hussien et al., 2021	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
17	Van Os et al., 2018	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
18	Gibson 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
19	Torresan et al., 2015	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
20	Sublete et al., 2015	Y	Y	Y	Y	Y	Y	U	Y	Y	Y	9
21	Du Plessis et al., 2021	Y	Y	Y	U	Y	Y	Y	Y	U	Y	8
22	Shaban et al., 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
23	Piekarz et al., 2021	Y	Y	Y	Y	Y	Y	Y	Y	U	Y	9
24	Brandelli et al., 2021	Y	Y	Y	Y	Y	Y	U	Y	U	Y	8
25	Commey et al., 2022	Y	Y	Y	Y	Y	Y	Y	Y	U	Y	9
26	Fuller et al., 2021	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
27	Donovan et al., 2019	Y	Y	Y	Y	Y	Y	U	Y	Y	Y	9

Overall appraisal. Y - Yes, N - No, U - Unclear.

Conclusions

The external appearance

Table 2 Summary of included studies.

Hale et al. 2015⁴¹

Goal

Understand the relationship

Type

Phenomeno-

logy/Author

Interpretive

Participants

Patients diagnosed with

Num Author year

1	Hale et al. 2015	Understand the relationship between body image, self- image, medication use, and adherence in people with systemic lupus erythematosus (SLE).	(Heidegger)	Patients diagnosed with SLE, with an age range of $22-57 \text{ n} = 15$	semi- structured interview	Doctor	Thematic analysis	rour themes related to the concept of body and self-image: diagnosis, communication, treatment, and distorted self-image.	effects caused by both the disease and the treatment influence the decision-making to continue it.
2	Hanna et al. 2020 ⁴²	To know the perceptions of people with myocardial infarction that condition their medication adherence behaviors	Descriptive (Husserl)	Participants with myocardial infarction, age range 5883 years $n=22$	Depth interview	Doctor and Nurse	Content analysis	Three themes are intrinsic to adherence: willpower, a sense of competence, and personal preferences.	It was shown that there are motivators that favor health behaviors, including adherence
3	Jin & Acharya 2016 ⁴³	To study the cultural meanings, practices, and beliefs that underlie communication and behaviors toward medication adherence in people of Chinese descent.	Interpretive (Heidegger)	Participants of chinese descent living in the United States with an average age of 28 years n = 14	Depth interview	Doctor	Thematic analysis	Four themes were identified: cultural concepts of yin-yang balance and "qi"; understanding of the efficacy of western and chinese medicines; the importance of family and social supports, and the level of acculturation.	The chinese cultural concepts of balance and energy extend to the experiences and behaviors of adherence to health, identifying it as a dynamic process influenced by cultural meanings, beliefs, and lived experiences.
4	Lee et al. 2020 ⁴⁴	To identify the experiences regarding adherence of people with HIV infection who are administered antiretroviral therapy (ART).	Descriptive applying Giorgi's method	Male participants diagnosed with HIV, with a mean age of 38.3 years $n=6$	Depth interview	Doctor and Nurse	Giorgi's Phenomenological Analysis	Six themes: adherence to ART; adjustments to respond to a sensitive body; dosing time and the need to adjust the time of administration with the availability of a confidential space; personal relationships and influence of relationships to ART.	The experience of people with ART reflected actions that destabilize their lives, and they need to hide and expose themselves during treatment. The need for communication by nurses to support patients in ART was reflected.
5	Moha <u>m</u> madpour et al. 2010 ⁴⁵	To know the experiences of HIV-infected patients with adherence to therapy antiretroviral (ART)	Interpretative (Heidegger)	Participants diagnosed with HIV with an age range of 27–52 years n = 19	Depth interview	Doctor and Nurse	Benner's thematic analysis	Four themes: a) choice to live and the decision to start taking medication; b) strategies to adhere to the regimen and manage side effects; c) relationships with health professionals and d) motivation to adhere to treatment.	The decision to start antiretroviral therapy and adherence is a dynamic process affected by factors related to the disease, the characteristics of the patients, and their knowledge and beliefs about the medication.
6	Nascimento et al. 2020 ⁴⁶	To understand the experiences of patients with chronic hepatitis C regarding their adherence to the medications they take.	Perception using the philosophy of Merleau- Ponty	Participants diagnosed with HIV older than 15 years $n=10$	Depth interview	Doctor and Pharmacist	Interpretive Phenomenological Analysis	Four themes related to the experience of patients in the daily use of medications: resolution, adversity, ambiguity, and irrelevance.	The framework proposed by Merleau-Ponty helps to understand the association between health conditions and physical symptoms that symbolize illness.
7	Sahile et al. 2018 ⁴⁷	To assess the experiences and perceptions of tuberculosis patients regarding treatment adherence.	Interpretative (Heidegger)	Participants diagnosed with tuberculosis older than 18 years $n=10$	Depth interview	Doctor and Nurse	Thematic analysis	Four topics are related to the patient, health services, therapy, and socioeconomic factors.	Most of the patients were compliant with the medication; perceived risk and well-being were considered factors responsible for adherence.
8	Sherman & Williams 2018 ⁴⁸	To examine the relationship between fear and diabetes mellitus (DM) self-care in black participants.	Descriptive (Husserl)	Participants diagnosed with diabetes mellitus older than 18 years $n=19$	Semi- structured interview	Doctor	Thematic analysis	Two themes were identified: fear that directly inhibits self- care and serves as a barrier to care, and fears that indirectly	Interventions should focus on enhancing patients' knowledge, and their beliefs about the benefits of (continued on next page)

Data

collection

method

Semi-

Health

involved

Doctor

professional

Analysis procedure

Thematic analysis

Results

Four themes related to the

Table 2 (continued)

diagnosed with systemic

lupus erythematosus

Num	Author year	Goal	Type Phenomeno- logy/Author	Participants	Data collection method	Health professional involved	Analysis procedure	Results	Conclusions
								inhibits self-care as a threat to the quality of life.	treatment, as well as addressing fears associated with self-control.
9	Shiyanbola et al. 2018 ⁴⁹	To explore the experiences of patients with type 2 diabetes mellitus to understand the reasons for medication adherence.	Descriptive (Husserl)	Participants of African origin diagnosed with type 2 diabetes mellitus with an age range of 45–60 years n = 40	Focus groups	Doctor, Pharmacist, and Nurse	Content analysis	Four themes were identified: perception of medications; disease perception; access to medications and medication information resources.	Due to disbelief in diabetes diagnosis and access to medication and information resources, patients do not take their medications.
10	Shore et al. 2020 ⁵⁰	To explore the experience of pregnant women with antiretroviral therapy (ART) to design interventions aimed at increasing their treatment adherence.	Interpretative (Heidegger)	Pregnant women diagnosed with HIV older than 18 years $n=10$	Semi- structured interview	Doctor and Nurse	Interpretive Phenomenological Analysis (Benner)	An overarching theme was found: adherence to ART fostering a new generation of children able to live without HIV and without having to deal with co-morbidities including a costly lifelong medication regimen.	ART affected aspects of women's daily lives as they felt a constant battle between the negative and positive aspects of taking ART during pregnancy.
11	Todd et al. 2016 ⁵¹	To explore the lived experience of patients, caregivers, and health professionals in the context of the use of medicines in life-limiting diseases.	Interpretive and Descriptive (Heidegger)	Patients in palliative care over 18 years of age $n=12$ Caregivers over the age of $18\ n=12$ Health professionals over $18\ n=12$	In-depth interviews	Doctor and Nurse	Thematic analysis	The patients described the experience of their disease as giving little importance to taking their medications, even though they are part of the daily routine of the patient and their caregivers.	Based on the lived experience of patients, caregivers and health professionals collaborate in the medication therapy used by patients with a life-limiting illness.
12	Dalvi & Mekoth 2017 ⁵²	Identify the determinants of the lack of adherence of patients. with chronic diseases.	Interpretative (Heidegger)	Participants diagnosed with chronic diseases with an average age of 52.6 years $n=18$	In-depth interviews	Doctor and Nurse	Interpretive Phenomenological Analysis	The factors that influence the lack of adherence of the patients were found: social stigma, dissatisfaction with the quality of staff, frustration, regimen difficulty, and lifestyle change.	Economic, social, and psychological factors, as well as those related to the health system, influence the lack of adherence of patients.
13	Srimongkon et al. 2018 ⁵³	To explore the individual experiences lived in taking antidepressant medications in patients with unipolar depression.	Descriptive (Husserl)	Participants diagnosed with unipolar depression older than $18\ n=23$	Semi- structured interview	Doctor	Thematic analysis	The themes identified: self-motivation, the severity of depression, and little belief in the efficacy of antidepressants. Stigma and fear of adverse events inhibited the initiation of therapy.	Different factors influence medication adherence and are based on individual experiences and perceptions about depression and its treatment; should be considered to formulate strategies that can increase medication adherence.
14	Rathbone et al. 2021 ⁵⁴	To explore the lived experience of adherence to medication in patients with symptomatic and asymptomatic diseases.	Descriptive (Husserl)	Participants diagnosed with diabetes, chronic obstructive pulmonary disorder, cancer, gout, or cardiovascular disease in the last six months over 35 years of age n = 41	Semi- structured interviews and focus groups	Doctor, Pharmacist, and Nurse	Thematic analysis	Three themes were identified in each of the different disease groups: identification, need, life routine, and adaptation.	Participants were shown to experience medication non- adherence when there was dissonance with information from healthcare professionals.
15	Leung et al. 2021 ⁵⁵	To explore the experiences of non-adherence to medications in patients	Descriptive (Husserl)	Participants diagnosed with systemic lupus erythematosus aged	Semi- structured interviews	Doctor	Thematic analysis	Three themes were identified: lack of knowledge about lupus among rheumatologists;	Poor communication between patients and rheumatologists has been shown to favor

 $26\text{--}46 \ years \ n=6$

(continued on next page)

medication non-adherence;

patients felt frustrated and

prescribed medication.

doubted the efficacy of their

ignorance of the benefit of

communication from the

rheumatologist and its

taking medications; Lack of

Table 2 (continued)

Num	Author year	Goal	Type Phenomeno- logy/Author	Participants	Data collection method	Health professional involved	Analysis procedure	Results	Conclusions
16	Hussien et al.	To explore the experience of	Descriptive	Participants diagnosed	Semi-	Doctor and	Thematic analysis	relationship with the prescribed medication regimen. Two themes were identified:	Patients' experiences of taking
	2021 ⁵⁶	hypertensive patients in self-care and the quality of health care in a public hospital.	(Husserl)	with arterial hypertension aged 18–65 years $n=6$	structured interviews	Nurse	·	the experience in the practice of self-care and the experience in the quality of medical care.	medication cause them to postpone taking medication when fasting, and religious beliefs have a strong impact or patient adherence to medication.
17	Van Os et al. 2018 ⁵⁷	To examine the perceptions and lived experiences of young patients with severe hemophilia, to understand the barriers and facilitators of adherence	Interpretative (Heidegger)	Participants diagnosed with hemophilia and treated prophylactically aged 12–25 years $n=11$	Semi- structured interviews	Doctor and Nurse	Interpretive Phenomenological Analysis	Three themes were identified: balance between good self-care and living the life you want; perceptions, barriers, and facilitators; support from family, friends, and the hemophilia treatment center.	Obstacles to adherence were demonstrated: time and effort required to take the treatment rejection of intravenous injection; venous access problems; anxiety or stress and getting out of the normal routine.
18	Gibson, G 2016 ⁵⁸	To explore the lived experiences of medication, use, and adherence when taking medication to treat Parkinson's disease.	Perception using the philosophy of Merleau- Ponty	Participants diagnosed with Parkinson's disease aged 55–80 years $n=30$	In-depth interviews	Doctor	Thematic analysis	Three themes were identified: medications and the lived body; Parkinson's disease and medications as signals through time lived with the disease.	The relationship between the lived experience of using medications and their effects on the lived body and medication adherence was identified.
19	Torresan et al. 2015 ⁵⁹	To explore the experiences of patients with severe chronic cancer pain about adherence to the medication plan and describe the elements that could facilitate the management of their pain.	Descriptive Giorgi's method	Participants diagnosed with cancer 34–81 years n = 18	Semi- structured interviews	Doctor and Nurse	Giorgi's Phenomenological Analysis	Three themes emerged: the importance of pain in subjective experience; the experience of being a patient following a care pathway and the importance attributed to pain therapy.	Through the experiences, the importance of the experience of pain and its treatment was known, identifying the components of adherence such as support from health professionals to build a relationship of trust with patients and encourage adherence to treatment throughout the care pathway.
20	Sublette et al. 2015 ⁶⁰	To explore the experiences of patients receiving treatment for hepatitis C to determine the factors that influence the decision to start their treatment as well as their ability to maintain treatment adherence.	Existentialist	Participants diagnosed with chronic hepatitis C $35-69$ years $n=20$	Semi- structured interviews	Doctor	Thematic analysis	Four themes were identified: motivations for starting treatment; the influence of communication with the health professional; facilitators of adherence and completion of treatment and barriers to adherence.	To increase adherence and treatment, a patient-centered approach is required that addresses patients' needs for social, practical, and emotional support and coping strategies.
21	Du Plessis et al. 2021 ⁶¹	To describe the experiences lived by relatives of non-compliance with psychiatric medication by adult women living with depression.	Descriptive (Husserl)	Relatives aged 20–45 years of 8 women with psychiatric treatment and depression	In-depth interviews	Doctor	Thematic analysis (Tesch)	Three themes were identified: experienced psychosocial effects, treatment refusal, and challenges experienced in caring for adult women living	Family members were shown to need information about their relatives living with depression who are non- compliant with psychiatric

(continued on next page)

medication, along with

from mental health professionals and service

providers.

comprehensive engagement

with depression who are

medication.

noncompliant with psychiatric

Num	Author year	Goal	Type Phenomeno- logy/Author	Participants	Data collection method	Health professional involved	Analysis procedure	Results	Conclusions
22	Shaban et al. 2020 ⁶²	To explore the lived experience and perceptions of isolated COVID-19 patients in an Australian healthcare setting.	Interpretative (Heidegger)	COVID-19 patients admitted to a designated facility $n=11$	Semi- structured interview	Doctor	Thematic analysis	Five themes were identified: "knowing about COVID-19, planning for and responding to COVID-19, being infected, living in isolation, and rooming and post-discharge life.	The lived experiences of patients with COVID-19 correspond to those of patients with other infectious diseases that require isolation by expressing both positive and negative lived experiences of infection, isolation, and illness.
23	Piekarz et al. 2021 ⁶³	To describe the experience of patients taking medications to prevent acute myocardial infarction (AMI).	Interpretative (Heidegger)	Adult individuals with a diagnosis of AMI $\mathbf{n}=4$	Semi- structured interview	Doctor	Interpretive Phenomenological Analysis	Five themes were identified: comparison with others to reinforce your sense of well- being, knowledge of your medications to understand your illness and treatment, consideration of how medications influence your lifestyle	A patient-centered approach is appropriate to achieve an adherence intervention based on individual experiences.
24	Brandelli et al. 2021 ⁶⁴	To explore the lived experiences of parents who identified treatment challenges for their children's juvenile idiopathic arthritis (JIA).	Interpretative (Heidegger)	Mothers of children with JIA $n=10$	Semi- structured interview	Doctor	Interpretive Phenomenological Analysis	Four themes were identified: roles of mothers within the family; positive and negative impact on their relationships with others; emotions that affected your well-being; and internal conflict.	Mothers' experiences with their children's JIA treatments affect treatment adherence, so they need support to help promote optimal outcomes for children with JIA and their families.
25	Commey et al. 2022 ⁶⁵	Understanding the experiences of people living with schizophrenia in southern Ghana.	Descriptive (Husserl)	Individuals with schizophrenia n = 9	Semi- structured interview	Doctor	Thematic analysis	It was identified that people with schizophrenia can carry out some activities of daily living, such as their personal and environmental hygiene together with medication management.	In the lucid intervals of people with schizophrenia, they can carry out activities of daily living, including personal care. It was shown that treatment adherence can improve quality of life.
26	Fuller et al. 2021 ⁶⁶	Understand the experience of patients with chronic diseases when taking their medications.	Interpretative (Heidegger)	Adults diagnosed with CHF or COPD and other secondary chronic diseases $n=11$	Depth interview	Doctor and Pharmacist	Interpretive Phenomenological Analysis	Five themes were identified: vital and indispensable medications, daily routine, confusion and worry, inadequate medication adjustments, and unwanted effects.	It is necessary to create a treatment plan in collaboration between patients and health professionals when prescribing medications
27	Donovan et al. 2019 ⁶⁷	Understand the factors that influence the likelihood of obtaining naloxone at the pharmacy	Descriptive	Adults had used a prescribed opioid pain medication $\mathbf{n}=57$	Semi- structured interview	BA/BS, MPH, MDiv	Thematic analysis	Five themes were identified related to the levels of individual, societal, pharmaceutical, community and societal influence on PBN procurement.	There are factors at multiple levels that influence the likelihood of obtaining naloxone at the pharmacy, which can be used as a basis for pharmacy interventions.

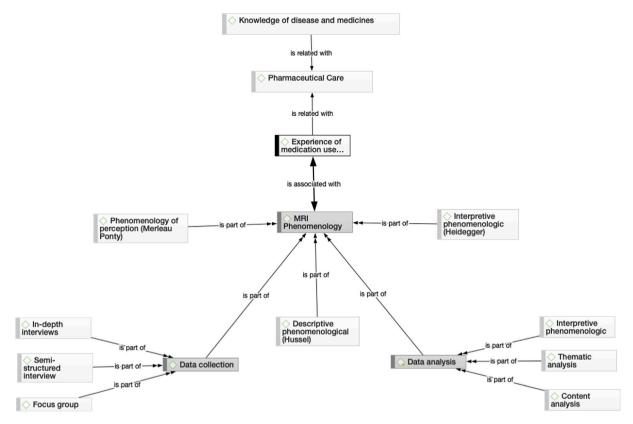


Fig. 2. Network analysis. Experience medication use.

for the analysis of the data collected: thematic analysis (n = 16), $^{41,43,45,47,48,51,53-56,58,60-62,65}$ content analysis (n = 2), 42,49 interpretative phenomenological analysis (n = 7), 46,50,52,57,63,64,66 and phenomenological analysis with Giorgi's method (n = 2).

4. Discussion

The mission of the pharmacist has evolved in recent decades towards patient-centered care, and the need has arisen for pharmacy practice research to include not only quantitative but also qualitative and mixed methods; it is difficult to decide which qualitative research approach to use, as each is based on different philosophical, conceptual, or theoretical frameworks. 24,33

The identification and selection of the ontological, epistemological, and theoretical perspectives of the methodology to adopt a congruent approach should be aligned with the research question and objective. Also, research questions about the scope of the study may focus on identifying knowledge, experiences, behaviors, beliefs, and practices of health professionals, including pharmacists. ⁶⁸

There is little evidence on the application of Phenomenology as an interpretative frame of reference to describe people's experiences of medication use and to understand their adherence behavior; its application has been documented mainly in the social sciences, but less useful in the health sciences, particularly in the pharmaceutical sciences where the main beneficiary is the patient; however, the results of this review suggest that Phenomenology constitutes a useful frame of reference in qualitative research to explain the experiences and perceptions of adherence in patients who use medications. ^{42,69,70}

The data observed as a result of each article reviewed represents the lived experience of individual participants, and it is limiting if it were studied only from a quantitative point of view, so it is necessary to use a qualitative approach to understand how patients experience the use of medications in everyday life considering their lifestyles, their social relationships, and in general their understanding of the disease and their

medications.^{26,71}

Content analysis was used to analyze and interpret the selected articles and systematically identify the theoretical and methodological approaches to phenomenology and understand how patients' experiences when using medications, mostly related to adherence to treatment, relate to each other. Fig. 2 shows the relationships with a hermeneutic approach to describe the patients' experience of medication use including their lifestyles, their social relationships, and in general their understanding of the disease and their medications.

It was found that Phenomenology has several approaches depending on the philosophical current, the main exponents identified in the articles reviewed were Husserl, Heidegger, Merleau-Ponty, and van Manen who have some points in common, but also different characteristics. This review aims to conceptualize phenomenology in both its philosophical and methodological aspects as an essential component in social pharmacy research. 31,72

We found articles where the approach is descriptive to explain the common experience in the use of medicines as they are lived and perceived by individuals with the greatest possible freedom from the assumptions of the researchers about the phenomenon studied. 42,48,49,53,56

In other studies, this approach was chosen since researchers could set aside a priori knowledge through "bracketing" or "epoché" and explore patients' real-world experiences of adherence. ⁵⁴ "Epoché" is a greek word meaning to refrain from judgment or to depart from the everyday, common way of perceiving things. ⁷² It should be noted that Phenomenology emerged as a philosophy with Edmund Husserl, who explains the nature of "being" and argues that lived experience involves immediate consciousness so that the phenomenon is attempted to be explained as quickly as possible, that which is immediate to consciousness and before the phenomenon has been reflected upon. ^{31,73,74}

In the articles reviewed, it was identified that the researchers explored the essence of the experiences in the use of medications, considering that the descriptive or transcendental phenomenological approach can become a methodology of choice to identify the reality of patients' experiences of adherence without considering the previous beliefs of the researchers and try to find a new way of thinking about adherence. The descriptive approach was also identified, under another author, Giorgi, where researchers seek to understand the human experience in the context of the person himself, as in the case of patients with severe chronic pain who explain how they experience their pain. ⁵⁹

In addition, the application of Hermeneutic Phenomenology or also known as interpretive through Heidegger was identified; this approach allowed the researchers of the articles analyzed to explore the patients' experiences towards therapeutic adherence (phenomenon) and to understand it as it acquires meaning for that person in the context of his or her life (the interpretation of the event); such an approach recognizes that the researcher plays an important role in the construction of the participant's account, as he or she guides them to find the details of the experience from the participant's perspective; so an idiographic approach is taken, trying to understand the experience from an individual account, then arriving at commonalities and differences by looking at a series of cases. 41,45

As noted by other authors, Heidegger agrees on some points with Husserl and differs in how lived experience is explored, and advocates the use of hermeneutics as a method of investigation founded on the ontological view that lived experience is an interpretive process. 31,72,75 Heidegger proposes the concept of ''hermeneutic circle'' to illustrate the relationship between pre-understanding and understanding the narratives of individuals to understand and interpret their lived experience. 72,76

Other studies identified interpretive phenomenology using a method developed by Benner to understand the experiences of women on antiretroviral therapy; the use of this approach allowed an understanding of their lived experiences as described by these women in their own words. In this case, the hermeneutic circle was used, a process in which the researcher goes back and forth between the participants' narratives of lived experience and their assumptions and interpretations of lived experience. ⁵⁰

Of the total number of articles reviewed, one was identified where the two phenomenological approaches converged: interpretative and descriptive to explore the "lived experiences" of patients and their caregivers, as well as of the health professionals involved in prescribing and monitoring patients' medication. In-depth interviews, using a phenomenological approach, were used to explore the "lived experiences" of patients and their caregivers, as well as of the healthcare professionals involved in prescribing and monitoring the medication of patients with life-limiting illnesses.

Transcendental phenomenology was applied to patients and caregivers to explore experiences of medication use and to understand how care was provided, and how medication use was experienced, transcendental phenomenology was used as it describes the experiences as they are lived by the participants, without any interpretation by the data collector, and as a result, any prior beliefs or knowledge about medication use for this group was "bracketed" by the interviewer, allowing the patients' and caregivers' accounts to be told without influence, appearing as is.

Given the complexity of prescribing medications to patients with life-limiting illnesses, and the need for healthcare professionals to engage in evidence-based care, the interpretive or hermeneutic approach was used, which focuses on the interpretation of experience, recognizing the context in which experiences take place and uses it to better understand the lived experience. Hermeneutic phenomenology is appropriate for these participants, as it allows for discussion of evidence-based practice in the face of the realities of everyday care. ⁵¹

Another theorist who has contributed to phenomenology and applied it mainly in the health sciences is Merleau Ponty, whose model has been applied in medical research; however, of the total number of studies only two consider the lived body perspective to explore drug therapy experiences; both were based on phenomenological perspectives related to

the lived body and experiences of taking medications, the implications of adherence to medication regimens, experience through the lived body, and the meanings attached to medications; highlighting the bodily relationship and use of medications while exploring medication adherence at the level of the body-self. Within this approach, medication adherence can be understood in terms of the consequences that medications can have for an embodied self and its position in the world. 46,58

It was identified that Merleau-Ponty's philosophy is useful to understand the experience of the disease, and the modifications in the body of patients living with chronic diseases, and those medications have caused profound changes in the physical and phenomenological body; however, few studies have evaluated the experience of medication use from this theoretical framework, being that of all the approaches this one can allow health professionals a greater understanding towards the behaviors of patients in the use of medications, understand and differentiate the physical body and the lived body that is responsible for the experience. Thus, the body is the vehicle of the self that is affected by social, cultural, and political forces, as well as its essential structures such as time, space, relationships with others, and sexuality through our phenomenological body, all of which are affected by an illness and therefore the experiences that arise in the daily use of medications. ⁴⁶

Another phenomenological research approach identified in the articles reviewed was the existential approach which is based on the individual's experience of health and illness; that is, the mind-body relationship. 77,78 Existential phenomenology is a philosophy-based methodology that is popular in the health sciences as a theoretical basis for health research because of its emphasis on the patient's experience and the meanings each person ascribes to those experiences. 77,79 Phenomenology emphasizes the patient's understanding and interpretation of his or her experience of illness, rather than an objective reality 31 and develops a deeper understanding of each patient's unique experience. 60

The included studies offer important data on the participation of health professionals in research with a qualitative phenomenological approach, more than 80% of the articles have both the nurse and the physician as protagonists, however, in all of them medicine is the main resource of the therapy, Therefore, it is clear that it is precisely the pharmacist who is responsible for actively participating in the dispensing, information and monitoring of the patient's treatment, considering not only the clinical aspects to promote the rational use of drugs, but also sociocultural aspects, beliefs, and perceptions to be able to choose a pharmaceutical care plan according to the individual characteristics of the patient. ^{42,51}

Among the data collection techniques identified in the articles reviewed are in-depth interviews, semi-structured interviews, and focus groups, in congruence with the main resources used to obtain data in qualitative research, specifically to understand the meaning of people's experiences with pharmacotherapeutic compliance.

The qualitative interview is generally semi-structured to deepen the answers of the interviewes, while the focus group interviews are characterized by a non-directed style, where the moderator of the group introduces the topics of discussion and facilitates the debate since the purpose of the group is not to reach a consensus but to propose different points of view on the phenomenon being studied. The ethical implications of the interview or focus group should be emphasized since, as there is a personal interaction, informed knowledge must be obtained to participate in the research, where the confidentiality of the information and its explicit use in the research is assured.

In qualitative research with a phenomenological approach, information was collected to describe people's experiences of their illness and adherence to treatment through inductive and qualitative methods, such as interviews. In several cases, semi-structured discussion guides were developed based on the literature regarding adherence to treatment for patients diagnosed with chronic diseases; the draft discussion guide was finalized using comments collected in focus groups with patients and health professionals.

Questions were asked in an open-ended, non-directive style to encourage participants to share their stories in their own words. Participants were assured that the information provided would be confidential and would not be shared with anyone connected to their care. 48,57 On the other hand, participants consented to a semi-structured interview with one of the researchers, which was audio-recorded and lasted 1 h, To improve the reliability and validity of the data, each interview was subsequently transcribed verbatim and made anonymous, removing any identifying words or phrases; all participants were assigned a number. 41

Where in-depth interviews were used, questions were asked about participants' health narratives, illness, health-related lifestyle, cultural beliefs, practices, healthcare experience, and medication adherence. The interviews were conducted individually, recorded, and later transcribed verbatim, the translated and transcribed data yielded insights regarding differences, emphasis, and conflict in the participants' narratives, documented as initial notes as mentioned by Smith and Osborn, 2008, who note that initial notes should be transformed into themes to capture the concise meaning of the text, followed by a search for connections between emerging themes and a more analytical ordering to make deeper sense of these connections, to describe factors influencing participants' medication adherence behaviors. 80

Similarly, semi-structured in-depth interview guides were developed based on scientific literature and peer review. The interview guide included predetermined and open-ended questions that included prompts so that participants were encouraged to convey their views. Overall, it was found that the guide was organized around topics such as demographics; initial experiences around the diagnosis; self-perception with the disease; health literacy; health care system and health care providers; compliance with the medical regimen and lifestyle changes; long-term perspectives; and advice for others in similar situations. It should be noted that, in all cases, informed consent was requested, where the investigator explained the aim of the study; some participants did not disclose their identity, so each patient was coded numerically. ^{42,43,46,52}

Qualitative focus groups with a phenomenological approach used patients' experiences to explore the reasons why patients might or might not take their medications for disease treatment and their perceived solutions to address the problem based on their experiences. The use of qualitative methods, such as focus groups, allowed for a much richer and deeper description of participants' experience-based perceptions and life events that may not be as accessible through quantitative methods. In addition, the focus groups provided an opportunity for participants to develop their recommendations for addressing medication non-adherence. The focus groups allowed individuals to have a "voice" in the research, which is important when conducting research with populations that feel underserved by both health professionals and the healthcare system. ⁴⁹

On the other hand, some authors employed the hermeneutic circle, which consists of the researcher going back and forth between the participants' narratives of lived experience (interview transcripts) and their assumptions, and interpretations of lived experience (pre-understanding, field notes, and memos). §1 Throughout the data collection, the researcher listened to each interview several times to stay close to the data and determine data saturation; in addition, all authors met regularly to discuss the need for new probes for the interview guide and came to a consensus on saturation. §2,83 All interviews were documented using consistent guidelines to capture both verbal communication from the audio recording and nonverbal information from the field notes. ⁵⁰

In qualitative research, the analytical process begins with data collection, allowing the researcher to go back as many times as necessary to refine questions, develop hypotheses, and pursue new avenues of inquiry in greater depth.⁸⁴

The data analysis procedure in the articles reviewed focused on content analysis and interpretative phenomenological analysis. Content analysis, based on phenomenology, was used as it allowed the analysis to go beyond the content of the interviews, identifying relationships between key parts of the participants' experiences, codes were generated, deconstructed, and merged until clusters (similar codes) and dominant themes emerged. 83,85 The focus group data were analyzed using the same approach as the interviews. The results of the focus groups were compared with those of the interviews to validate both results. 51,54

To complement, in 2018, Nascimiento et al. suggests a systematized theoretical framework; the epistemological basis is phenomenology, the paradigm in the phenomenology of existence and its theory in corporeality, serving as a basis for all stages of various studies. In summary, the analysis included several stages such as a detailed description of the phenomenon, phenomenological reduction, and an attempt to understand the phenomenon and to be able to understand it. 46

One qualitative research approach identified was Interpretative Phenomenological Analysis (IPA), which allowed us to explore an important event in a participant's life (the phenomenon) and to understand the event as it acquires meaning for that person in the context of his or her life (the interpretation of the event). ⁸² In the articles reviewed it was found that most of the research interviews set within a phenomenological approach invited participants to relate their attempts to make sense of what has happened to them in taking their medications and trying to adhere to treatment, it was identified that IPA employs a "double hermeneutic" in which the researcher tries to make sense of the participant trying to make sense of their experiences, therefore, the studies do not require participants to already have clearly defined ideas about their adherence. ^{80,82}

Within the interpretative phenomenological analysis, semistructured interviews are considered a good method of data collection, as they facilitate a more informal and free-flowing interview since it is not based on measuring previously formed attitudes of which the participants are aware but involves the researcher making sense of the participants' experiences. In this way, IPA adopts an idiographic approach, seeking to understand the experience from an individual account, then arriving at commonalities and differences by examining a series of cases. 52,57 The research papers reviewed explored the factors affecting medication nonadherence and lifestyle modifications among patients with chronic diseases, choosing interpretative phenomenological analysis allowed exploring the participants' experience and its inherent meaning and the results of the papers provided evidence on the structure and determinants of nonadherence, trying to help healthcare professionals understand the root causes of nonadherent behaviors. In the case of patients of chinese descent, their narratives were analyzed using interpretive phenomenology to understand how participants made sense of medication adherence and examine their cultural meanings, practices, and beliefs about their lived experiences and cultural context.8

Giorgi's method of qualitative phenomenological analysis was also used to understand participants' experiences of adherence to pain treatment, ^{44,59} to understand the overall meaning, a general reading was done several times without criticism or judgment; to get a sense of the totality and understand the overall meaning of the adherent's experience, units of meaning of the experience were then identified and the units were subsequently transformed to themes to describe the essential structure of the experience of adhering to treatment. ⁴⁴

Whether the approach is descriptive, transcendental, or perceptual, phenomenology uses it to better understand the lived experience of taking medications, the implications of medication regimens, the experience through the lived body, and the meanings attached to medications, including the bodily relationship and medications.

Even factors that may influence the likelihood of purchasing medications at the pharmacy, as described by Donovan et al. (2019) in work on the use of naloxone as an antidote to opioid overdose where people's beliefs were visualized to aid in better intervention when at risk. ⁶⁷

It was noted that few studies have evaluated the experience of medication use from this theoretical framework and that it may enable healthcare professionals to broadly understand patients' behaviors when using medications, differentiating the physical body and the lived body that is responsible for the experience to be used in the context of pharmaceutical care practice.

5. Conclusions

This work showed that the approaches, methodologies, and techniques of Qualitative Research are applicable to describe people's experiences with the use of medications and to understand their behavior in therapeutic adherence through Phenomenology. This interpretative referential framework was very useful in pharmaceutical practice, where there are little knowledge about the social and human factors that influence decision-making to optimize the pharmacological treatment of patients and make it safe, effective, and at the same time acceptable to the patient. The methodological analysis allowed identifying that semistructured interviews, in-depth interviews, and focus groups is useful data collection techniques to collect the description of what patients experience and how they experience it. The theoretical analysis highlighted the phenomenological philosophy of Husserl and Merleau-Ponty who allow us to describe and analyze consciousness, focusing on the lifeworld and allowing us to identify the experiences of the subjects. Using interpretative phenomenological analysis was important since it implies that the researcher gives meaning to the experiences of the participants and achieves a vision of how a given person, in each context, gives meaning to the phenomenon, which in this case is the use of medications. Knowledge of the usefulness of Phenomenology and its epistemological, theoretical, and methodological congruence will allow its use in future research that involves understanding the sociobehavioral aspects of patients when they are administered medications, especially to learn about their experience and plan pharmaceutical care activities.

6Limitations of the article

One of the limitations of this study in including only phenomenological studies is the difficulty in generalizing the results of using Qualitative research to the Pharmaceutical Sciences; however, it was considered the closest way to identify differences in conceptual frameworks, philosophies, and theoretical backgrounds of Phenomenology by needing a useful qualitative design to learn about patients' lived experiences of medication use. It could be argued that these articles could have included relevant excerpts; however, their primary aim was to investigate the experience of medication use.

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Authors' contributions

Ana María Téllez-López and Leobardo Manuel Gómez-Oliván conducted the information searches and manuscript review. Isis Beatriz Bermudez-Camps and Ivette Reyes-Hernández were involved in the review conception and manuscript review. Ana María Téllez López, Leobardo Manuel Gómez-Oliván, Ivette Reyes-Hernández, and Claudia Fegadolli were involved in the design and interpretation of the data and

the writing of the manuscript and manuscript review.

Declaration of competing interest

All authors declared that there are no conflicts of interest.

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