

Article

The Italian Epistemic Disclaimer *Non so* [I Don't Know] in a Corpus of Gynaecological Interactions

Ramona Bongelli ^{1,*}, Andrzej Zuczkowski ² and Ilaria Riccioni ²

¹ Department of Political Science, Communication and International Relations, University of Macerata, 62100 Macerata, Italy

² Department of Education, Cultural Heritage and Tourism, University of Macerata, 62100 Macerata, Italy; zuko46@gmail.com (A.Z.); ilaria.riccioni@unimc.it (I.R.)

* Correspondence: ramona.bongelli@unimc.it

Abstract: Viewing conversations from an epistemic perspective involves analysing how participants navigate their knowledge, handle uncertainty, and address their lack of knowledge. This article focuses on the use of epistemic disclaimers, i.e., linguistic expressions that speakers employ to indicate uncertainty or lack of knowledge, in a collection of Italian gynaecological conversations throughout pregnancy. Specifically, the study examines the occurrences, features, and pragmatic functions of the epistemic disclaimers, with a specific focus on *Non so*, which is the Italian equivalent of “I don’t know” in English, the most extensively researched epistemic disclaimer. The study aims to (1) investigate the types and frequency of uncertain and unknowing epistemic disclaimers in the gynaecological corpus and (2) identify their characteristics and pragmatic functions. The primary findings indicate that epistemic disclaimers are primarily used to convey unknowledge rather than uncertainty. However, while patients use more epistemic disclaimers than doctors, they mainly use them to communicate unknowledge, whereas doctors mainly use them to express uncertainty. Regardless, their usage does not appear problematic in conversational terms since the topics for which they are used fall outside the domains of knowledge of each party.

Keywords: “*Non so*” [I don’t know]; epistemic disclaimers; uncertainty; unknowledge; KUB model; Italian language; gynaecological interactions



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1. Introduction

Taking an epistemic perspective on conversations entails analysing how the participants navigate their knowledge, handle their insufficient knowledge (uncertainty), and address their lack of knowledge (unknowledge). This involves paying attention not only to what speakers claim they know but also to what they claim as uncertain or unknown, which are referred to as *epistemic disclaimers*.

While they can serve to mitigate or qualify a claim (e.g., Fraser 1980; Caffi 1999, 2007), to encourage interlocutors’ participation (Goodwin 1987), to organise the interaction (Beach and Metzger 1997) or to acknowledge one’s own cognitive limitations or biases, they can also introduce conversational complexities, especially when interlocutors have different expectations regarding each other’s domain of knowledge (e.g., Kamio 1997; Heritage and Raymond 2005, 2012; Raymond and Heritage 2006; Heritage 2012a, 2012b). Asymmetric interactions, such as those between doctor and patient (Ariss 2009), can be especially susceptible to such challenges (e.g., Ogden et al. 2002; Lindström and Karlsson 2016).

While there are numerous studies on epistemic management during conversations both in everyday and institutional settings (e.g., Stivers et al. 2011), most of them seem to focus on claims of knowledge, rather than on expressions of uncertainty or unknowledge, i.e., epistemic disclaimers (e.g., Tsui 1991; Beach and Metzger 1997; Weatherall 2011; Beach 2015; Doehler 2016; Helmer et al. 2016; Lindström et al. 2016; van der Meij et al. 2022).

Specifically, in relation to doctor–patient interactions, although a significant body of literature on epistemic management has emerged in recent years (as shown by, e.g., [Heritage and Maynard 2006](#); [Heritage 2009, 2011](#); [Robinson and Heritage 2014, 2016](#); [Stasiuk et al. 2016](#); [Stivers and McCabe 2021](#)), comparatively little has been written, in particular, about the epistemic disclaimers (e.g., [Lindström and Karlsson 2016](#); [Lian and Robson 2019](#); [Lian et al. 2022, 2023](#)).

Most studies focusing on epistemic disclaimers, in any context, including the doctor–patient one, concern the expression “I don’t know” (e.g., [Tsui 1991](#); [Aijmer 2009](#)) and its equivalents in other languages (e.g., [Keevallik 2011, 2016](#); [Doehler 2016](#); [Helmer et al. 2016](#); [Lindström and Karlsson 2016](#); [Menichetti et al. 2021](#); [van der Meij et al. 2022](#)). The focus on “I don’t know” is probably justified by its widespread use in conversations ([Kärkkäinen 2003](#)).

As far as Italian is concerned, the doctor–patient gynaecological encounters seem to be (of all doctor–patient interactions) the least investigated from an epistemic perspective (e.g., [Fatigante and Bafaro 2014](#); [Cole et al. 2019, 2020](#); [Orletti 2019](#); [Ericsson et al. 2021](#)). Regarding the use of epistemic disclaimers, as far as we know, the sole study dedicated to their usage is the one recently published by [Menichetti et al. \(2021\)](#), who, in the context of triadic interactions that occur between doctors and 20 couples seeking assisted reproductive technology consultations, focus on the epistemic functions of *Non lo so* [lit., *I don’t know that*] although used solely by doctors.

In order to give a contribution to the study of the epistemic disclaimers in the medical field, this research examines the use of *Non so* [I don’t know] (as well as other comparable epistemic disclaimers) in a corpus of 12 Italian gynaecological interactions between a doctor and 11 pregnant patients, taking into consideration both those used by the doctor and by the patients. Although gynaecological consultations are more and more triadic, with also the partner coming to the visit, in our corpus, they are mainly dyadic, i.e., they mainly take place only between a doctor and a patient. Even in the rare cases where the partner was present, his interventions were sporadic, brief, and contained no epistemic disclaimer. For this reason, we decided not to examine their interventions.

Gynaecological encounters during pregnancy are a particular type of doctor–patient (D-P) interaction, which is widespread in many Western Countries, including Italy (where pregnancy has become increasingly medicalised over time), and which differs from other types of medical consultations in many respects (e.g., the absence of illness that needs to be treated, at least normally; sequential organisation of meetings; contents under discussions, etc.). However, beyond the differences, as in other medical encounters, the management of the epistemic dynamics takes place between two subjects with different epistemologies:

- A *pregnant woman*, who has epistemic rights, priorities, and authority over her own experiences related to pregnancy (i.e., emotional states, feelings, physical perceptions related to changes in her own body, general health state, etc.), to which she has direct access through internal and external experiences ([Kamio 1997](#)), in a similar way in which in other medical contexts other Ps have rights, authority, and priorities on their own symptoms and/or suffering experiences related to each specific disease;
- A *gynaecologist*, who, similarly to other physicians, has epistemic rights, authority, and priorities related to their professional competence, according to which they decide what is relevant to discuss, monitor, etc.

Despite the expectations associated with the epistemic status of the interlocutors ([Heritage 2012a, 2012b](#)), what actually happens in terms of the epistemic positioning (interlocutors’ epistemic stances adopting [Heritage’s \(2012a, 2012b\)](#) terminology) may deviate from them, and expressions of uncertainty and lack of knowledge may appear. Uncertainty, knowledge limitations, and lack of knowledge characterise indeed all medical settings (e.g., [Han et al. 2019](#)), including the gynaecological ones in which issues are largely unpredictable (as, for example, those related to events concerning childbirth or the health of the unborn child) and sensitive (as, for example, those related to the choice of undergoing

a prenatal test, which can be particularly invasive, or to the difficult decision to have an abortion) are under discussion.

Aims

As mentioned earlier, interactions, particularly those with an asymmetrical nature such as doctor–patient interactions, can be seen as exchanges of knowledge between individuals who possess distinct rights and responsibilities. Given this premise, delving into the conversational implications of using expressions of non-knowledge struck us as remarkably intriguing. While we have previously conducted epistemic analyses on various textual forms and conversational dynamics (e.g., [Bongelli et al. 2013](#); [Riccioni et al. 2014](#)), our focus has predominantly been on statements of certainty or uncertainty, rather than on epistemic disclaimers. Consequently, now we find it compelling to shift our attention to these expressions, which might undermine what [Thorson and Baker \(2019\)](#) refer to as epistemic personhood (an individual’s ability to possess knowledge, intricately tied to their rights and obligations in the realm of knowledge), as well as the relational climate.

Thus, as claimed, the main aim of this study is to investigate the use of *epistemic disclaimers*, with a particular focus on the expression “*Non so*” [I don’t know] (and similar epistemic disclaimers), in a collection of Italian gynaecological conversations throughout pregnancy, in order to address the following research questions (RQs):

- RQ1: Which and how many *uncertain* and *unknowing* epistemic disclaimers occur in our gynaecological corpus? Specifically, are there qualitative and quantitative differences between the use of epistemic disclaimers by the doctor and the patients?
- RQ2: What are their features and pragmatic functions?

Answering the first research question implies the analysts’ ability to identify when the disclaimer “*Non so*” [I don’t know] (and similar epistemic disclaimers) is used by interlocutors to communicate uncertainty or unknowledge. In the international literature there seems to be a substantial agreement on the fact that “I don’t know” can communicate unknowledge or uncertainty (e.g., [Keevallik 2011](#); [Helmer et al. 2016](#)) and on the existence of some *linguistic*, basically co-textual, criteria to ascertain *when* it does communicate either the former or the latter. While a rigorous linguistic co-textual analysis is essential, it may not always be sufficient to disambiguate a given occurrence and provide the analyst with a clear understanding of whether and why a specific use of “I don’t know” communicates uncertainty or unknowledge. An epistemic theory is required to assist in making this determination. Our perspective is that the bottom-up approach, which involves a linguistic co-textual analysis, should be combined with a top-down approach based on an explicit epistemic theory (see Section 2.2).

2. Materials and Methods

2.1. Corpus

Our corpus is made up of 12 gynaecological consultations between a male doctor (D) and some of his pregnant Ps (total words approximately 22,500), which were audiotaped some years ago (early 2000s) by the same D (the gynaecologist) in his private consulting room and transcribed according to a simplified version of the [Jefferson \(2004\)](#) system (see the Transcription Note in Appendix A). All the participants are Italian native speakers¹. Ps aged between 21 to 35 years old.

Before recording, D informed both Ps (specifically those with physiological and unproblematic pregnancies) and, if present, their partners, and obtained their oral consent to participate in a collection of conversational data intended for research purposes at the Psychology of Communication Research Centre at the University of Macerata. During this process, D assured the participants that: (a) only members of the research centre would have access to the recorded audio data; (b) the data would only be used anonymously. For these reasons, the names of the participants, as well as those of people and places mentioned during interactions, were replaced.

According to the KUB model, the epistemic disclaimer *Non so* can convey uncertainty or unknowledge, i.e., it can originate either from the speaker's unknowing or an uncertain position (specifically a Not Knowing Whether position).

As for **the linguistic co-textual analysis**, we focus on the sequential structure embedding *Non so* and above all on how *Non so* (and the other analogous epistemic disclaimers) manifests itself in a conversation, i.e., on whether

1. It is followed either by a proposition *p* (e.g., *Non so + quanto peso* [I don't know + how much I weigh])

- (a) In a responsive, or
- (b) Non-responsive turn.

or

2. It is alone (*Non so*),

- (a) In a responsive, or
- (b) Non-responsive turn.

Manifestations (1a) and (1b) are the easiest to be epistemically labelled as uncertain or unknown, since *p* is explicit and the syntactic and semantic rules that govern *Non so* involve that *p* can be introduced either by the conjunction *se* [whether/if] or by the Italian equivalent of one of the English wh-words (Quirk et al. 1985; Biber et al. 1999; Stivers et al. 2010), i.e., the interrogative adverbs *dove* [where], *come* [how], *quando* [when], *perché* [why], *quanto* (how much/how long, etc.) and the interrogative pronouns or adjectives *chi* [who], *che cosa/cosa/che* [what], *quale/i* [which]) (Renzi et al. 2001). Tertium non datur, i.e., a third possibility is not given, is excluded.

Following the KUB epistemic model, Not Knowing Whether communicates uncertainty, while Not Knowing Why/Where/When/What/Who/Which/How communicates unknowledge. Therefore, when *p* is introduced by *se* [whether/if], *Non so* conveys the speaker's Uncertain position, thus it is an uncertain disclaimer. On the contrary, when *p* is introduced by the Italian equivalent of one of the English wh-words, *Non so* conveys the speaker's Unknowing position, thus it is an unknowing disclaimer.

Manifestation (2), i.e., *Non so* alone, is easier to be epistemically labelled as uncertain or unknowing in (a) than in (b), since in (2a), i.e., *Non so* alone in responsive turns, the linguistic co-textual analysis tells us what type of question *Non so* is an answer to. Questions can be of two main types: wh-questions and whether-questions (alternative questions, polar interrogatives, tag and declarative questions).

Following the KUB epistemic reading of question-answer sequences (Bongelli et al. 2018; Riccioni et al. 2018; Zuczkowski et al. 2021), *Non so* as an answer to a wh-question usually comes from the respondent's Unknowing position (as well as the questioner's wh-question), thus this type of *Non so* communicates unknowledge, i.e., it is an unknowing epistemic disclaimer. Example: D: *Quanto pesi?* [How much do you weigh?]-P: *Non so (quanto peso)* [I don't know (how much I weigh)].

Non so as an answer to a whether-question usually comes from the respondent's Uncertain position (as well as the questioner's whether-question), thus this type of *Non so* communicates uncertainty, i.e., it is an uncertain epistemic disclaimer. Example: D: *Pesi 58 kg?* [Do you weigh 58 kg?]-P: *Non so (se peso 58 kg)* [I don't know (whether I weigh 58 kg)].

Manifestation (2b), i.e., *Non so* alone in non-responsive turns, can be the most difficult to be epistemically labelled as uncertain or unknowing since *p* is not explicit and *Non so* is not an answer to a previous question: it pragmatically functions as an assertion among other assertions, more than as an indirect question to the interlocutor or to the speaker themselves.

In this type of occurrence, the communication analysts' subjectivity plays a greater role than in the other types of occurrences; sometimes they cannot be sure of their epistemic reading as it is in the other types of occurrences, i.e., they can only formulate hypotheses and put forward arguments in favour of them.

In this case, in view of the quantitative analysis, they can label these types of occurrences as their hypotheses suggest (as we did in our gynaecological corpus).

To sum up, the linguistic co-textual analysis of manifestations 1a (*Non so* followed by p in responsive turns) consists of ascertaining if p begins with *se* [if/whether] or a wh-word and if the previous question to which *Non so* is the answer is a whether-question or a wh-question.

The linguistic co-textual analysis of manifestations 1b (*Non so* followed by p in non-responsive turns) consists of ascertaining if p begins with *se* or a wh-word.

The linguistic co-textual analysis of manifestations 2a (*Non so* alone in responsive turns) consists in ascertaining the type of question (wh-question or whether-question) that *Non so* is an answer to, then in making explicit the implicit p that follows *Non so* and in completing it by adding all the words that are co-textually required to make p consistent with the question and acceptable from the syntactic, semantic and pragmatic point of view.

The linguistic co-textual analysis of manifestations 2b (*Non so* alone in non-responsive turns) is partially similar to the linguistic co-textual analysis of manifestations 2a and consists in making explicit the implicit p that follows *Non so* and in completing it by adding all the words that are co-textually needed to make p consistent with the question and acceptable from the syntactic, semantic, and pragmatic point of view.

The theoretical epistemic reading consists of applying the KUB model to the results of the linguistic co-textual analysis (see Table 1).

Table 1. From the linguistic manifestations to the epistemic reading.

	A (Responsive)	B (Non-Responsive)
1 (followed by explicit p)	<i>Non so</i> [I don't know] as an answer to (a wh or a whether) question <i>I don't know + wh</i> → unknown <i>I don't know + whether</i> → uncertain	<i>Non so</i> [I don't know] in non-responsive turn <i>I don't know + wh</i> → unknown <i>I don't know + whether</i> → uncertain
2 (alone)	<i>Non so</i> [I don't know] as an answer to <i>wh-questions</i> → unknown <i>whether</i> question → uncertain	The most difficult typology to disambiguate

2.3. Procedures

Firstly, each of the three authors screened the corpus of D-Ps' interactions separately, with the aim of detecting all the occurrences of epistemic disclaimers. Subsequently, the three authors compared their detection to ensure that they had identified the same occurrences (i.e., the same epistemic disclaimers) and that all of them had been picked out.

The set of epistemic disclaimers, thus identified, was then analysed qualitatively by the researchers, with the main aim of determining:

- The epistemic stance—unknown or uncertain—they convey (RQ1);
- Their features and pragmatic functions (RQ2), specifically:
 - Their positioning in the conversational sequences (responsive or non-responsive turns);
 - The topics they are related to;
 - The interlocutors' replies to their use.

Specifically, the identification of the epistemic position (Uncertain or Unknown) conveyed by the epistemic disclaimers was first carried out separately by each of the authors, following the KUB model (see Section 2.1). An inter-observer agreement was calculated (K Cohen = 0.92). Then the authors discussed each case on which they disagreed and reached an agreement.

Finally, a statistical descriptive analysis was carried out, using Jamovi (Version 2.3.21.0), an open statistical software (retrieved from <https://www.jamovi.org>, accessed on 10 September 2023), built on top of the R statistical language (Retrieved from <https://cran.r-project.org> (R packages retrieved from MRAN snapshot 1 January 2022)).

3. Results

While Section 3.1 reports the main quantitative results, Section 3.2 presents the qualitative analysis of five extracts from our corpus, in which epistemic disclaimers are used by both D and Ps. We decided to conduct not only a qualitative analysis of a few exemplary fragments, but also a quantitative one, as numerical data, and their descriptive statistics, provide insight into the uses and functions of epistemic disclaimers, which a qualitative analysis alone would not have been able to represent.

3.1. Quantitative Results

After the identification in the whole corpus of 71 epistemic disclaimers (median 5.9 per encounter, range 1–23), which can be grouped into five types or categories (*Non so*, *Non so se p*, *Non ricordo*, *Non ricordo se p*, *Boh*), frequency analysis was performed to identify the presence of any differences in their use.

The analysis revealed that the interlocutors use:

- 42 occurrences of *Non so*⁴ [I don't know] (32 alone + 10 followed by an explicit p);
- 16 occurrences of *Non so se p* [I do not know whether p];
- 8 occurrences of *Non ricordo* [I don't remember] (6 alone + 2 followed by an explicit p);
- 2 occurrences of *Non ricordo se p* [I don't remember whether p];
- 3 occurrences of *Boh*⁵ [Dunno].

The most used epistemic disclaimer is, therefore, *Non so* in its various forms (either alone or followed by an explicit *p*, as seen in Table 2), accounting for 59.2% of the total occurrences of these expressions in our corpus (see Table 3). The chi-square test revealed statistically significant differences ($\chi^2(4) = 76.7, p < 0.001$) in the use of the five different categories of epistemic disclaimers. Specifically, the observed frequencies of *Non so* are higher than expected, while those of *Non ricordo se e Boh* are lower than expected.

Table 2. Frequencies of the epistemic disclaimers, depending on whether they are followed by p or not.

Non so (alone)	Non ricordo (alone)	Non so + p with a Wh-Word	Non so + p with Whether	Non ricordo + p with a Wh-Word	Non ricordo + p with Whether	Boh	Tot.
32 (23 unknown; 9 uncertain)	6 (5 unknown; 1 uncertain)	10	16	2	2	3	71

Table 3. Frequencies and percentages of epistemic disclaimers, regardless of their being followed by p or not.

Epistemic Disclaimers	Non so	Non ricordo	Non so se	Non ricordo se	Boh	Tot.
Patients	36 * (64.3%) (85.7%)	8 (14.3%) (100%)	8 (14.3%) (50%)	2 (3.6%) (100%)	2 (3.6%) (66.7%)	56 (100%) (78.9%)
Doctor	6 (40%) (14.3%)	0 (0%) (0%)	8 (53.3%) (50%)	0 (0%) (0%)	1 (6.7%) (33.3%)	15 (100%) (21.1%)
Tot.	42 (59.2%) (100%)	8 (11.3%) (100%)	16 (22.5%) (100%)	2 (2.8%) (100%)	3 (4.2%) (100%)	71 (100%) (100%)

* The percentages for each category are shown horizontally and those for each interlocutor vertically (in italics).

When considering Ps and D separately, the analysis revealed that Ps use the highest number of epistemic disclaimers both in total (56 = 78.9% vs. 15 = 21.1%), and in relation to each category, except for the expression *Non so se*, which is equally used by D and Ps (8 occurrences respectively).

Specifically, both the chi-square test—applied to the total amount of epistemic disclaimers used by Ps (=56) and D (=15)—and the multivariate analysis—applied to the number of epistemic disclaimers belonging to each of the five categories and used by Ps and D—highlighted significance differences ($\chi^2(1) = 23.7, p < 0.001$, and $\chi^2(4) = 12.1, p < 0.005$, respectively). The epistemic disclaimer *Non so se*, which is—as claimed—equally used by D and Ps (8 occurrences, respectively), is however the most frequently chosen epistemic disclaimer among those used by D (8 out of 15 total). It is precisely this use by D (different from the expected one) that contributes to the significance of the multivariate analysis.

While for Ps there was a median of 4.6 epistemic disclaimers per encounter (range 0–23), for D there was a median of 1.25 (range 0–4).

Non so, Non ricordo, and Boh can assume an uncertain or unknowing meaning, as we saw in the first part of this article (although exclusively for *I do not know*).

As shown in Table 4, out of the 53 occurrences of *Non so* (42), *Non ricordo* (8), and *Boh* (3): 41 (77.4%) are those communicating unknowledge, 12 (22.6%), on the contrary, those communicating uncertainty. Again, in this case, the chi-square test, conducted on the total occurrences (i.e., 41 = 77.4% vs. 12 = 22.6%), revealed a statistically significant difference between unknowledge and uncertainty ($\chi^2(1) = 15.9, p < 0.001$), indicating a predominant use of these epistemic disclaimers to convey unknowledge.

Table 4. Epistemic stance conveyed by *Non so, Non ricordo* and *Boh*.

Epistemic Stance	Non so	Non Ricordo	Boh	Tot
Unknowledge	33 *	7	1	41
	(80.5%) (78.6%)	(17.1%) (87.5%)	(2.4%) (33.3%)	(100%) (77.4%)
Uncertainty	9	1	2	12
	(75%) (21.4%)	(8.3%) (12.5%)	(16.7%) (66.7%)	(100%) (22.6%)
Tot.	42 (79.2%) (100%)	8 (15.1%) (100%)	3 (5.7%) (100%)	53 (100%) (100%)

* The percentages for each category are shown horizontally and those for each interlocutor vertically (in italics).

Analysing these epistemic disclaimers separately, what emerges is that while *Non so* and *Non ricordo* are mainly used to communicate unknowledge (78.6% and 87.5% for each of their respective totals), *Boh* is mainly used to communicate uncertainty (66.7% of its total).

As shown more in detail in Table 5, both Ps and D use the epistemic disclaimer *Non so* mainly to communicate unknowledge (77.8% and 83.3%, respectively, for each of their individual totals). Moreover, the epistemic disclaimer *Non ricordo*, which is only used by Ps, is mostly used for communicating unknowledge (87.5%).

After identifying, on the basis of the KUB theoretical criterion, which epistemic position is conveyed by the epistemic disclaimers *Non so, Non ricordo, and Boh*, we proceed to present a synoptic view of the results (see Table 6), according to which:

- 41 epistemic disclaimers (which represent 57.78% of the total) are used to communicate *unknowledge* (specifically, 33 occurrences of *Non so*, 7 of *Non ricordo*, and 1 occurrence of *boh* as previously shown in Tables 2 and 3), and
- 30 epistemic disclaimers (which represent 42.3% of the total) are used to communicate *uncertainty* (specifically, 9 *Non so*, 1 *Non ricordo*, 2 *boh*, as previously shown in Tables 2 and 3, 16 occurrences of *Non so se*, 2 occurrences of *Non ricordo se*).

Table 5. Epistemic stance conveyed by *Non so*, *Non ricordo*, and *Boh* used by P and D.

Interlocutors	Non so			Non ricordo			Boh		
	Unknowledge	Uncertainty	Tot.	Unknowledge	Uncertainty	Tot.	Unknowledge	Uncertainty	Tot.
Patients	28 *	8	36	7	1	8	1	1	2
	(77.8%) (84.8%)	(22.2%) (88.9%)	(100%) (85.7%)	(87.5%) (100%)	(12.5%) (100%)	(100%) (100%)	(50%) (100%)	(50%) (50%)	(100%) (66.7%)
Doctor	5	1	6	0	0	0	0	1	1
	(83.3%) (15.2%)	(16.7%) (11.1%)	(100%) (14.3%)	(0%) (0%)	(0%) (0%)	(0%) (0%)	(0%) (0%)	(100%) (50%)	(100%) (33.3%)
Tot.	33	9	42	7	1	8	1	2	3
	(78.6%) (100%)	(21.4%) (100%)	(100%) (100%)	(87.5%) (100%)	(12.5%) (100%)	(100%) (100%)	(33.3%) (100%)	(66.7%) (100%)	(100%) (100%)

* The percentages for each category are shown horizontally and those for each interlocutor vertically (in italics).

Table 6. Synoptic view of the epistemic stance conveyed by the epistemic disclaimers.

Unknowing				Uncertain				Tot	
Non so	Non ricordo	Boh	Tot.	Non so se	Non ricordo se	Non so	Non ricordo	Boh	Tot.
33	7	1	41 (57.7%)	16	2	9	1	2	30 (42.3%)
									71 (100%)

If we consider all epistemic disclaimers (71), the difference between those used to communicate unknowledge (41) and those used to communicate uncertainty (30) is not significant at the chi-square test. In other terms, the interlocutors in our corpus used epistemic disclaimers both to communicate unknowledge and uncertainty.

As shown in Tables 7 and 8, while Ps resort to the unknowing disclaimers (36 = 64.3% are the unknowing; specifically: 28 *Non so* + 7 *Non ricordo* + 1 *Boh*) more than to the uncertain ones (20 = 35.7%, specifically, 8 *Non so*, 1 *Non ricordo*, 8 *Non so se*, 2 *Non ricordo se*, and 1 *Boh*); D, vice versa, resorts to the uncertain epistemic disclaimers (10 = 66.7%, specifically, 1 *Non so*, 8 *Non so se*, 1 *Boh*) more than to the unknowing ones (5 = 33.3%, all *Non so*). Nonetheless, while the chi-square test, separately performed for Ps and D, revealed statistically significant differences for Ps ($\chi^2(1) = 4.57, p < 0.005$), who used more unknowing than uncertain epistemic disclaimers, no significant differences have been identified for D's use of unknowing and uncertain epistemic disclaimers.

Table 7. Synoptic view of the unknowing and uncertain epistemic disclaimers used by Ps and D.

Epistemic Disclaimers	Unknowing	Uncertain	Tot.
Patients	36 *	20	56
	(64.3%) (87.8%)	(35.7%) (66.7%)	(100%) (78.9%)
Doctor	5	10	15
	(33.3%) (12.2%)	(66.7%) (33.3%)	(100%) (21.1%)
Tot.	41	30	71
	(57.7%) (100%)	(42.3%) (100%)	(100%) (100%)

* The percentages for each category are shown horizontally and those for each interlocutor vertically (in italics).

As for the sequential position of the epistemic disclaimers, the analysis revealed that most of them appear in non-responsive turns, i.e., they are mainly used by the interlocutors not after a request or elicitation, i.e., not as replies to a request for information, but to introduce a new topic or a new perspective about a topic under discussion.

As shown in Table 9, the number of epistemic disclaimers in Ps' non-responsive turns (36 occurrences = 64.3% of their total epistemic disclaimers) is higher than those

in responsive ones (20 occurrences = 35.7% of the total). A similar situation has been registered also for D’s turns in which out of 15 occurrences of epistemic disclaimers, only 3 (20%) appear in responsive turns and 12 (80%) in non-responsive ones. In both cases, the chi-square test revealed significant differences ($\chi^2(1) = 4.57, p < 0.005$, and $\chi^2(1) = 5.4, p < 0.005$, respectively).

Table 8. Unknowing and uncertain epistemic disclaimers used by Ps and D.

Patients	Unknowing	Uncertain	Tot.
<i>Non so</i>	28	8	36
<i>Non ricordo</i>	7	1	8
<i>Non so se</i>	0	8	8
<i>Non ricordo se</i>	0	2	2
<i>Boh</i>	1	1	2
Tot.	36	20	56
Doctor			
<i>Non so</i>	5	1	6
<i>Non ricordo</i>	0	0	0
<i>Non so se</i>	0	8	8
<i>Non ricordo se</i>	0	0	0
<i>Boh</i>	0	1	1
Tot.	5	10	15

Table 9. Sequential position of epistemic disclaimers in both P’s and D’s turns.

Sequential Position of Epistemic Disclaimers	Responsive Turns	Non-Responsive Turns	Tot.
Patients	20 *	36	56
	(35.7%)	(64.3%)	(100%)
	(87%)	(75%)	(78.9%)
Doctor	3	12	15
	(20%)	(80%)	(100%)
	(13%)	(25%)	(21.1%)
Tot.	23	48	71
	(32.4%)	(67.6%)	(100%)
	(100%)	(100%)	(100%)

* The percentages for each category are shown horizontally and those for each interlocutor vertically (in italics).

Regarding the identification of topics related to the interlocutors’ use of epistemic disclaimers, we grouped them—through a bottom-up process—into four macro-categories:

- Patient;
- Other(s);
- Baby;
- Gynaecologist.

As shown in Table 10, Ps use epistemic disclaimers mainly referring to the category we labelled “patient” (in order to talk about themselves, i.e., their own psychological and mental states—the reasons of which are often unknown to them—physical condition, and examinations and test to do), and only marginally to the categories we labelled “other(s)” (to talk about other Ps’ behaviours), “babies”, and “gynaecologist”. Ds, on their part, use epistemic disclaimers mainly referring to the categories “other(s)” (primarily to report events that are outside their control and that they do not know for sure, for example, the date concerning the arrival of new medical equipment in the hospital where they work,

or to talk about his colleagues’ behaviour, whose reasons they ignore), and then to the “patient” (mainly to express their doubts about some prenatal tests their Ps might desire to undergo).

Table 10. Topics related to the epistemic disclaimers.

Topics	Patients	Doctor	Tot.
Patient	40 * (93%) (71.4%)	3 (7%) (20%)	43 (100%) (60.6%)
Other(s)	10 (45.5%) (17.9%)	12 (54.5%) (80%)	22 (100%) (31%)
Baby	4 (100%) (7.1%)	0 (0%) (0%)	4 (100%) (5.6%)
Doctor	2 (100%) (3.6%)	0 (0%) (0%)	2 (100%) (2.8%)
Tot.	56 (78.9%) (100%)	15 (21.1%) (100%)	71 (100%) (100%)

* The percentages for each category are shown horizontally and those for each interlocutor vertically (in italics).

Both D and Ps use epistemic disclaimers, not only referring to different topics (see Table 9) but also to different pragmatic functions. Specifically, as shown in Tables 11 and 12, D uses epistemic disclaimers mainly to communicate that they do not know practical information concerning, for example, the timetable of the childbirth preparation course organised by the midwives (53.3%); Ps use epistemic disclaimers mainly to communicate that they do not know some information concerning medical issues (e.g., the date of the last period; the body weight) or the reasons for their feelings.

Table 11. Pragmatic functions of D’s epistemic disclaimers.

Pragmatic Functions of D’s Epistemic Disclaimers	Frequencies	%	Examples
communicate that he does not know information on practical matters (e.g., timetables of the pre-birth course organised by midwives);	8	53.3%	<i>I don’t even know the times</i>
communicate his point of view	3	20%	<i>I don’t know whether I would use my own son to do the experiment</i>
advise in a mitigated way	2	13.3%	<i>I don’t know whether it’s worth taking this test</i>
criticise	1	6.7%	<i>there is a tendency to scare pregnant women, I don’t know why.</i>
ask indirectly	1	6.7%	<i>I don’t know what you like now (eating)</i>
Tot.	15	100%	

The ways in which the interlocutors reply to the epistemic disclaimers are essentially accepting. As shown in Tables 13 and 14, both D (25 out of 56) and Ps (10 out of 15) indeed mainly accept the interlocutor’s claims of unknowledge or uncertainty, i.e., they do not show misalignment. Nonetheless, D replies to Ps’ epistemic disclaimers also by requesting further explanations or details (12 out of 56) or giving explanations, suggestions, or advice (9 out of 56), trying to fill Ps’ epistemic gaps.

Table 12. Pragmatic functions of Ps’ epistemic disclaimers.

Pragmatic Functions of Ps’ Epistemic Disclaimers	Frequencies	%	Examples
communicate/disclose that they do not know medical information about themselves (present or past)	22	(39.3%)	<i>I don’t really remember (the date of the last period); Shortened cervix now I don’t remember</i>
communicate/disclose that they do not know the reasons for their own and other pregnant patient’s conditions/feelings etc.	16	(28.6%)	<i>I don’t know, I like how, how I am</i>
ask for advice/communicate that they do not know how to act	8	(14.3%)	<i>I wanted to know whether, I know it’s absurd, sometimes I get hungry, I don’t know whether, what should I do? (=I don’t know if I should eat or not)</i>
communicate that they do not know practical information	4	(7.1%)	<i>Before it was open. Now I don’t know (it = the ticket office)</i>
Indirect questions	2	(3.6%)	<i>I don’t know whether you remember that the first time I came I had an infection</i>
communicate they do not know what to ask for	2	(3.6%)	<i>Oh my God. I don’t know, you tell me the most frequently asked questions</i>
show disbelief	1	(1.8%)	<i>I always say to him: “but are they wrong?” I don’t know</i>
communicate not remembering a dream	1	(1.8%)	<i>I do that famous: shot but I don’t remember which one it was (shot = feeling of falling)</i>
Tot.	56	(100%)	

Table 13. D’s replies to Ps’ epistemic disclaimers.

D’s Replies	Ps
he refuses to give explicit advice on a sensitive issue	1
he accepts without asking for further explanations (or changing the subject)	25
he asks for explanations/details	12
he closes with a yes, ok. The outcome of the negotiation does not seem positive	1
he confirms an uncertain patient’s request	2
he insists on his point of view/challenges the patient’s uncertain memories. Long negotiated activities	3
he invites the patient to inform herself	2
he provides possible explanations/suggestions/advice	9
he rephrases his question in a more specific way	1
Tot.	56

In other terms, as shown in Table 13, after Ps employ epistemic disclaimers, D generally responds by closing the sequence, providing feedback to demonstrate his understanding, or attempting to bridge the knowledge gap regarding the underlying reasons for Ps’ feelings. Even in the rare instances when Ps themselves use epistemic disclaimers regarding topics, they should be familiar with (such as the date of their last period), D adopts an accepting attitude, assuring Ps that they can locate the missing information by consulting their medical records.

Similarly, as shown in Table 14, Ps also generally maintain an accepting attitude, often concluding the sequences after D expresses a lack of knowledge or uncertainty regarding organisational matters that are largely outside D’s expected expertise.

Table 14. Ps’ replies to D’s epistemic disclaimers.

Ps’ Replies	D
they accept/close the sequence	10
they ask for information	5
they reply to an indirect request for information	1
they suggest hypothesis	2
Tot.	56

3.2. Qualitative Results

In this section, the qualitative analysis of six excerpts of our corpus, in which the epistemic disclaimers are used both by D and Ps, are presented, in order to show how we applied the linguistic and theoretical criteria described in Section 2.1 and illustrate the characteristics and the pragmatic functions of the disclaimers, as well as the interlocutor’s reactions to their use.

While the first five show an attitude of substantial acceptance of the epistemic disclaimer, the last one is one of the rare examples identified in the corpus characterised by a higher level of conversational and epistemic complexity related to the narration of a past event concerning D’s work.

The following excerpt (as well as the excerpt (5)) are taken from a conversation between D and a young patient (P), who is in her fifth month of her first pregnancy.⁶

(1) DP-06

178P: *E però io non so per* ←
 [And yet I do not know
 179: *quanto tempo prenderli. [Quindi,*
 how long to take them for. [So,
 180D: *[Cosa?*
 [What?
 181P: *E questi ovuli omeopatici. [Non lo so.* ←
 And these homeopathic ova. [I don’t know.
 182D: *[Quelli può prenderli quanto vuole.*
 [You can take them as long as you want.

In this fragment, P uses the epistemic disclaimer *Non so* two times: the first one (lines 178–179) in a non-responsive turn *E però io non so per quanto tempo prenderli* [And yet I don’t know for how long to take them], where the Italian pronoun *li* [them] refers to the homeopathic ova, the disclaimer is explicitly followed by the proposition (=per quanto tempo prenderli [for how long to take them]) and it functions as an indirect wh-question corresponding more or less to a direct wh-question like *For how long should I take them?*

Both direct and indirect wh-questions are introduced by the wh-word *per quanto tempo* [for how long], suggesting that the disclaimer comes from P’s Unknowing position and it is addressed to D’s Knowing position, who is expected to know the answer.

D tries to understand what the pronoun *li* [them] refers to (line 180, *Cosa?* [What?]).

Once clarified that it refers to the homeopathic ova (line 181), P adds *Non lo so* [I don’t know that], where the Italian pronoun *lo* [that] stands for an *implicit proposition p*: the disclaimer appears alone, in the sense that the proposition *p* remains implicit and must be made explicit: the verb expression *Non so* must be completed by adding an *explicit p*. Intuitively there is an only way to make the pronoun *lo* [that] explicit, and this way is the one already present in lines 178–179: *Non so + per quanto tempo prenderli* [I don’t know + for how long to take them]. P’s indirect wh-question, as the one in lines 178–179, is still

addressed to D's Knowing position, who intervenes by asserting *You can take them as long as you want* (line 182, from his K to her U).

P uses the epistemic disclaimer *Non so* to communicate that she does not know some medical information (specifically, how long to take a drug), and D replies by providing this missing information. What the interlocutors do in pragmatic and epistemic terms (communicating an information gap and filling this gap) is perfectly aligned with the expectations implied by their knowing roles (i.e., epistemic statuses).

The following excerpt is taken from a dialogue between D and a very young patient (P) in the third month of her first pregnancy. The visit is finished and they are talking about a practical issue, i.e., the payment for the visit.

(2) DP-05

- 282D: *Te faccio il foglietto per,*
I'll make you a note for,
283P: *(Il ticket)?*
(The ticket)?
284D: *Sì.*
Yes
285: *Mhm. [Tu abiti a?*
Mhm. [You live in?
286P: *[A:,*
[In,
287: *A Xxxxx.*
In Xxxxx.
288D: *Mhm. Non so se è ancora aperto. ←*
Mhm. I don't know if it's still open.
289P: *Mhm.*
Mhm.
290D: *°Se no ce ripasseraio.*
°If not, you can come back°.
291P: *Quanto c'ho tempo?*
How much time do I have?
292D: *Ah non lo so. ←*
Ah I don't know.
293P: *Eh eh eh.*
Eh eh eh.

While writing a note with the amount to be paid for the visit, D uses the first of the two epistemic disclaimers present in this excerpt, to communicate that he *does not know if* the cashier's office is still open. If it is closed, P can come back to the office in the next few days (line 290).

Here it is very easy to decide that the epistemic disclaimer *Non so se* (è ancora aperto) [I don't know whether (it's still open)] refers to uncertainty since it is explicitly followed by a *p* introduced by *se* [whether]. With this declarative sentence, D expresses a doubt, coming from his Not Knowing Whether position.

In line 292, D resorts again to the second epistemic disclaimer (*Non lo so* [I don't know that]) as a response to P's wh-question *Quanto c'ho tempo?* [How much time do I have? = I don't know how much time I have = Unknowing position].

In this case, the epistemic disclaimer *Non lo so* [I don't know that] is not followed by *se* [whether] as it was in line 288 but by the pronoun *lo* [that], which here stands for a proposition *p* (=quanto tempo ho [how much time I have to make the payment if now the office is closed]). Thus, the epistemic disclaimer *Non lo so* can be completed as *Non so quanto tempo ho* [I don't know how much time I have] to make the payment if now the office is closed] and it communicates unknowledge, not uncertainty, since it is followed by a *p* beginning with the wh-word *how much*.

In the question-response sequence *Quanto c'ho tempo?* [How much time do I have?]-*Ah non lo so* [Ah I don't know that] both the interlocutors assume Unknowing positions: P's wh-question *Quanto c'ho tempo?* [How much time do I have?] (line 291) comes from her Unknowing position [=I don't know how much time I have) and addresses D's Knowing one since she supposes that D knows how much time she has. Contrary to her expectations, D does not know that and answers from his Unknowing position (*Ah non lo so* [Ah I don't know that]).

D's statements of uncertainty or lack of knowledge, such as not being sure if the office is open or not knowing the deadline for payment, do not create misalignment in the conversation. These pieces of information do not fall, indeed, within his domain of knowledge, meaning they are not related to his professional and epistemic role. In other words, D's interlocutor does not assume he should know these pieces of information due to his role. P probably asks her question: *Quanto c'ho tempo?* [How much time do I have?], hoping that D knows the answer, but following his assertion of unknowledge, she closes the sequence by laughing (line 293), although her knowledge gap has not been filled by D.

In the following excerpt, D is talking about the risks of an innovative intra-uterine surgical technique for the correction of spina bifida, which, at the time the interaction was recorded, was still little used. His speech is generic, and hypothetical and it is not related to P's current situation.

The following two extracts (3) and (4) are taken from the same conversation between D and a young patient (P), who is in the sixth month of her third pregnancy.

(3) DP-02

- 6D: *La spina bifida significa che te pò nasce lo bambino con un grave*
 Spina bifida means that a child can be born with a severe
 7: *handicap agli arti inferiori (.) e: praticamente loro con una tecnica*
 handicap in the lower limbs (.) and practically they close it
 8: *endoscopica lo chiudono. È stati fatti, ormai è abbastanza capita 'sta*
 with an endoscopic technique. It's been done, this thing is quite common
 9: *cosa qui però entri dentro l'utero, lo buchi tutto, magari questo dopo:*
 but you go inside the uterus, you pierce it all, maybe later the baby
 10: *(je va bene le gambe), ma semo sicuri che il suo futuro sarà del tutto*
 (it's fine for the legs), but are we sure that its future will be
 completely
 11: *normale per il resto? Tutto sommato ce ne sarà stati venti casi*
 normal for everything else? All in all there must have been twenty cases
 12: *nel mondo.*
 in the world.
 13P: Mhm.
 Mhm.
 14D: *.hh hh Non lo so. Boh. ←*
 .hh hh I don't know. Dunno.
 15P: *Interromperebbe prima il,*
 You would first interrupt [the,
 16D: *[Mhm vorrei non essere un[:*
 [Mhm I wish I wasn't a [
 17P: *[sul (campo) he he*
 [on the (field) he he
 18D: *Eh!*
 Eh!

In lines 10–11, by resorting to a polar question, D advances some doubts on the results of such technique for solving all problems related to spina bifida: *ma semo sicuri che il suo futuro sarà del tutto normale per il resto?* [but are we sure that its future will be completely normal for everything else?]. This question can be read as a plain question coming from D's NKW position (*I don't know whether we can be sure that its future will be completely normal for everything else*), showing D's uncertainty. The same question could have a rhetorical meaning: *I believe that it is impossible to be sure that...* (Koshik 2005).

To stress his doubts about this type of surgery, D adds (lines 11 and 12): *Tutto sommato ce ne sarà stati venti casi nel mondo* [All in all, there must have been twenty cases in the world]. In other terms, it is as if he is saying that there is no sufficient proof to state with certainty that the surgery will guarantee a normal life for the unborn child as very few surgeries have been performed all over the world.

In line 14 D, after P's feedback ("Mhm"), goes on to express his doubts, adding: *Non lo so. Boh* [I don't know. Dunno]. Both the epistemic disclaimers, used jointly, can be completed as *I don't know whether we can be sure, etc.*, and paraphrased as: *I'm not sure that this technique can solve every problem related to spina bifida*, which is the same as: *I don't know whether*.

Unlike the previous case, in this fragment, D voices uncertainty and hesitation about the efficacy of a newly developed medical procedure. This doubt does not cause any

communication problems or conversational misalignment probably because D is speaking hypothetically. However, if D had expressed the same reservations following a diagnosis of spina bifida in one of his patients' children, it may have resulted in a different outcome.

In the immediately following turn (line 15), P puts forward a hypothesis with respect to D's possible behaviour (*you would first interrupt the*, probably meaning interrupt the pregnancy). However, this hypothesis is not accepted by D, who promptly and overlapping with P, merely claims *I wish I wasn't a* (line 16). D's turn, at this point, is interrupted by P, who completes with *on the field*. Although D would probably have completed the suspended turn with "a parent" (*I wish I wasn't a parent who has to decide whether to have intrauterine surgery performed or not*), he accepts P's completion and at line 17 closes with an "Eh", paraphrasable as a confirmation (Yes).

In the following short extract, P uses, in a responsive turn, the epistemic disclaimer *non me lo ricordo neanche ora* [I can't remember not even now] as a response to D's informative question about her last period, i.e., about a physical issue.

(4) DP-02

- 67D: *L'ultima mestruazione, m'ha detto?*
Your last period, did you tell me?
- 68P: *Veramente non me lo ricordo neanche o[ra].* ←
Actually I can't remember that not even n[ow].
- 69D: *[Ah me la leggo qua.*
[Ah I read it here.

D's question (*L'ultima mestruazione, m'ha detto?* [Your last period, you told me?] line 67) can be read as a declarative question paraphrasable as *You told me that your last period was...?*, i.e., as if P had already answered it before, but her reply contradicts D's expectation for an exact date; in fact, she answers: *Veramente non me lo ricordo neanche ora* [Actually I can't remember that not even now], which means I couldn't remember that before and I can't remember that, not even now.

The Italian pronoun *lo* [that] stands for an implicit *p*, which can be made explicit resorting to D's question in the previous turn concerning the date of her last period and thus *p* can be completed as *I can't remember when my last period was*, i.e., with a *p* beginning with the wh-word *quando* [when].

Despite D's question coming from the Unknowing position and addressing P's Knowing one, her answer comes from the Unknowing position. Therefore, this answer is not only unexpected, but it is also misaligned, failing to rebalance the initial epistemic unbalance (Heritage 2010, 2012a, 2012b), which led D to ask the question. The sequence is closed by D, who claims to be able to autonomously find the response, by reading her medical record. In other words, D does not show surprise nor insists on obtaining an answer, nor does any assessment concerning P's "lack of memory". On the contrary, he proceeds by affirming to be able to retrieve the information. Thus, also in this case, although a patient is expected to remember such information, belonging to her domain of knowledge, nonetheless, the epistemic disclaimer seems to be tolerated, i.e., it does not seem to have caused any problems in the conversational sequence.

In the following excerpt, a young P compares herself with other pregnant Ps, focusing on the psychological and physical state related to pregnancy (lines 35–41).

(5) DP-06

- 35P: *E poi per il resto la gravidanza va veramente molto bene, cioè mi*
 And then for everything else my pregnancy is going really well, that is
- 36: *seno proprio: in un periodo di estrema felicità proprio. Al di là*
 I feel really in a period of extreme happiness really. Apart from the
- 37: *del fatto che so' contenta di avere un figlio ma mi sento proprio bene*
 fact that I am happy about having a baby but I feel really good
- 38: *fisicamente, mi sento piena di energie, mi sento positiva proprio::*
 physically, I feel full of energy, I feel positive really
- 39: *(benissimo, come se non, come non mi sono mai sentita. [Sì, sì no =*
 well, as if not, as I have never felt before. [Yes, yes no =
- 40D: *[Signora è una =*
 [Madam, it is a =
- 41P: *= veramente. Infatti quando sento tante che si lamentano sinceramente =*
 = really. In fact when I hear so many women complaining sincerely =
- 42D: *= soddisfazione sentirla,*
 = satisfaction to hear that,
- 43P: *= non riesco a capire perché, perché io mi sento proprio bene. Eppure, ←*
 = I can't understand why, because I feel really good. And also,
- 44: *voglio dire, di problemi non è che non ce ne siano:: però, mhm,*
 I mean, it's not that there are no problems but, mhm,
- 45: *non lo so: mi sento proprio serena dentro [mi sento proprio (.) bene, = ←*
 I don't know I feel really calm inside [I feel really (.) good, =
- 46D: *[Sì.*
 [Yes.

P starts (lines 35–41) to talk about her happiness (*I feel really in a period of extreme happiness*, lines 35–37) and about her health (*I feel really good physically*, lines 37–39). After D's alignment and appreciation towards her words (lines 40–42), in line 41 she introduces the topic of other pregnant women who complain and whose reasons she cannot understand (*non riesco a capire perché [si lamentano]*/I can't understand why [they complain], line 43), since she, on the contrary, feels really good (*perché io mi sento proprio bene* [because I feel really good] (line 43).

Non riesco a capire perché [I can't understand why] is a disclaimer similar to *Non so perché* [I don't know why]. The presence of *perché* [why] following *Non riesco a capire* [I can't understand] suggests that P's epistemic position is the Unknowing, i.e., that the disclaimer refers to P's unknowledge. The second *perché* used by P in the same line 43 (*perché io mi sento proprio bene*) has the meaning of *since I feel really good*. So, the reading would be: *non riesco a capire perché [si lamentano]*/I can't understand why [they complain] (line 43), since, on the contrary, *I feel really good* (*perché io mi sento proprio bene*) (line 43). In other terms, the meaning of the two sentences *I can't understand why, since I feel really good* can be paraphrased as *since I feel really good, I can't understand the reasons why the other women complain*.

In line 44, she claims that although there are some problems, nonetheless ("but") she feels really calm inside (line 45). Between the two sentences, she puts *non lo so* [I don't know that], preceded by *mhm*. The pronoun *lo* [that] refers to the reasons *why* she feels really calm inside [I feel really (.) good], so from an epistemic perspective also this disclaimer is used to communicate unknowledge. In other words, P is saying that she feels *really calm inside*, although she does not know the reasons why. In this case, D simply gives understanding feedback (line 46).

From an epistemic perspective, P seems to constantly shift from a Knowing position to an Unknowing one and vice versa: she is claiming that she knows how she and the other pregnant Ps feel, but in both cases, she states to be unable to identify the reasons why.

This last example is taken from a consultation between D and a young patient (P) of his (P) at an advanced stage (beginning of the third trimester) of her second pregnancy.

Almost the entire conversation is based on the topic of uterine contractions, felt by P both in her previous and current pregnancy and on the disagreement between D and P with regard to the duration of the administration of a drug to block contractions during her first pregnancy.

(6) DP-04

- 149P: *Dopo io non me ricordo se una volta dimessa dall'ospedale ho fatto* ←
 Afterwards I don't remember if once I was dismissed from the hospital I
 take
- 150: *due mesi o un mese [mi ricordo che qualcosa ho continuato a prendere =*
 two months or one month [I remember that something I continued to take =
- 151D: *[°Un mese un mese°].*
 [(°One month one month°)
- 152P: *= a casa.*
 = at home.
- 153D: *Guarda quando c'è una minaccia de parto prematuro se vede se è vera o se*
 Look when there's a threat of premature birth you can see if it's true
 or if
- 154: *non è vera. Se è vera e: bisogna capire il perché c'è*
 not true. If it's true and it is necessary to understand why it's there
- 155: *e poi: te dico l'uso di questi farmaci è limitato a periodi brevissimi.*
 and then I tell you the use of these drugs is limited to very short
 periods.

In this fragment, P is recalling an event that took place during her previous pregnancy concerning the length of time she was prescribed medication to alleviate uterine contractions. D was also her gynaecologist during that period, but according to him, the patient's memories are not accurate.

While P states that she does not remember with certainty (i.e., she is uncertain) whether she took the incriminated drug for one or two months (lines 149–150), D replies to this uncertain recollection of P's, overlapping, with a rather low volume of voice, by repeating twice her statement "one month, one month" (line 151) and goes on (lines 153–155) providing an explanation (beginning with the imperative "Look") regarding the prescribed usage of the drug for a very brief period (lines 153–155). D's statement marks the end of the sequence and implicitly casts doubt on P's recollection, suggesting it may be inaccurate or false.

From an epistemic point of view, we have, on the one hand, P's uncertain recollection, which is nevertheless paraphrasable in terms of: I am not certain whether the administration lasted one month or two, but I am certain that the time range is that (=either one month or two), and, on the other hand, the certainty of D, who not only limits to one month the maximum time of administration of the drug but goes on to explain why it is not possible for him to have made her take a drug for such a long time, given that its use is suggested for very short periods.

In this instance, instead of accepting the epistemic disclaimer, there is an active endeavor to reconstruct the event, which results in the two participants assuming different positions. P's uncertain memories conflict with the medical certainties of D, who considers it impossible to have prescribed that drug for as long as remembered by P. The certainty of his claims is based on the scientific evidence (scientific recommendations) according to which the drugs in question should be administered for very short periods of time.

4. Conclusions and Discussion

The main aim of this study was to investigate the use of epistemic disclaimers, with a particular focus on the expression *Non so* [I don't know] (and similar epistemic disclaimers), in a collection of Italian gynaecological conversations throughout pregnancy, in order to identify (1) which and how many uncertain and unknowing epistemic disclaimers occur in our gynaecological corpus, i.e., are used by doctor and patients (RQ1), and (2) which are their features and pragmatic functions (RQ2).

Answering the first research question requires recognising when interlocutors use the disclaimer *Non so* (and similar epistemic disclaimers) to convey uncertainty or lack of knowledge. While Helmer et al. (2016), and Keevallik (2011) generally agree that the same disclaimers can have different epistemic meanings (uncertain or unknown, as said) and that some linguistic co-textual criteria can help in determining such meaning, to the best of our knowledge, no explicit epistemic theory has been applied to disambiguate their use in prior studies.

In this paper, we present and adopt a mixed approach, combining a bottom-up linguistic co-textual perspective with a top-down explicit epistemic theory (Believing model, Zuczkowski et al. 2017; Zuczkowski et al. 2021) to determine whether the epistemic disclaimers identified in a corpus of Italian gynaecological interactions express uncertainty or unknowledge. Such analysis allows us to gain new insights into both the constructions (co-textual analysis) and the specific context of the use of epistemic disclaimers.

Consistently with what many studies have revealed regarding the widespread use of the epistemic disclaimer *I don't know* in English and equivalent expressions in other languages (e.g., Kärkkäinen 2003; Keevallik 2011, 2016; Doehler 2016; Helmer et al. 2016; Lindström and Karlsson 2016; Menichetti et al. 2021; van der Meij et al. 2022), in our corpus, the epistemic disclaimer most used is *Non so*. As for the epistemic meaning of *Non so*, the results of our analysis reveal that it is prevalently used to communicate unknowledge and only secondary uncertainty. Overall, considering all the epistemic disclaimers used in our corpus (71 in total, with 41 used to communicate unknowledge and 30 to communicate uncertainty), statistical analysis did not reveal significant differences. This means that the interlocutors in our corpus resort to the use of epistemic disclaimers to communicate both the lack of knowledge (i.e., unknowledge) and the lack of certainty (i.e., uncertainty).

Although we found that both D and Ps use epistemic disclaimers, nonetheless, some quantitative and qualitative differences emerge.

Specifically, pregnant patients use epistemic disclaimers about four times more frequently than the doctor (and this difference was found to be statistically significant), predominantly relying on unknowing disclaimers (this difference was also found to be statistically significant). In contrast, the doctor uses a smaller number of epistemic disclaimers, mainly resorting to the uncertain ones. Even though D uses a larger number of epistemic disclaimers to convey uncertainty (10) compared to a smaller number used for unknowledge (5), this difference was not found to be statistically significant.

Regarding the second research question, more specifically, our analyses revealed differences between D and Ps also concerning the contents related to the use of epistemic disclaimers and to the pragmatic functions. In particular, Ps use epistemic disclaimers mainly referring to the "self" category, in order to talk about their own feelings, emotions, etc., whose reasons they often claim to ignore. In contrast, D primarily uses epistemic disclaimers mainly referring to the "other(s)" category, in order to talk about practical issues such as the availability of medical equipment or office opening hours for payment of the ticket, or to comment on their colleagues' behaviour, and only secondarily to express their own point of view or provide advice in a mitigated manner.

In other terms, although Ps describe in terms of knowledge and certainty their internal experiences to which they have direct access (Kamio 1997), and over which they have epistemic authority and priority, they often claim to be unable to gain access to the reasons for these experiences (see fragment 5), which are therefore communicated as unknown (or secondary as uncertain). D, on the other hand, mainly uses epistemic disclaimers to refer to practical-organisational issues, that are outside of their direct control (see fragment 2), as well as to describe his colleagues' behaviour, whose reasons he is often unaware of.

These results seem to be in line with the expectations related to the epistemic status, rights, priorities, and authorities of the interlocutors with respect to their specific domains of knowledge.

Ps, who in this type of asymmetrical interactions are typically expected to assume a less knowledgeable position (Heritage 2012a, 2012b) on medical issues, concerning, for example, the attribution of meaning to symptoms or sensations, and who, conversely, are presumed to be competent about their own feelings, perceptions and so on, actually use more unknowing epistemic disclaimers in relation to the medical (and sometimes psychological) reasons for their experiences. On the contrary, D, who is instead commonly expected to have medical and professional competence, employs epistemic disclaimers less frequently. When they are used, D predominantly opts for uncertainty epistemic disclaimers (although, as previously noted, their use does not significantly differ from

the use of unknowing epistemic disclaimers), primarily referring to the practical matter, over which he has no direct control, or to the reasons that have moved other colleagues' behaviour, and not for scientific or personal/relational issue (see [Han et al. 2011](#), who distinguished three types of uncertainty in health care, namely scientific (data-centered); practical (system-centered) and personal (patient-centered)).

The use of epistemic disclaimers by both Ps and D does not appear problematic in conversational terms, in most of the examples analysed, being substantially aligned with the socially shared knowing expectations and epistemic roles assigned to the interlocutors involved. The topics for which epistemic disclaimers are used mainly fall outside the domains of knowledge recognised as proper for each party.

As for the conversational sequence position, contrary to the results of other studies (e.g., [Tsui 1991](#); [Beach and Metzger 1997](#); [Lindström et al. 2016](#)), according to which the epistemic disclaimers mainly occur in responsive turns, our findings revealed a higher and significant presence of them in non-responsive turns of both D and Ps. While a high presence of *Non so* in non-responsive turns of doctors in the gynaecological setting was observed also by [Menichetti et al. \(2021\)](#), their presence in Ps' non-responsive turns is a novel finding, which seems to suggest, on the one hand, Ps' need to reveal their doubts, uncertainty, and lack of knowledge in a setting that is in itself characterised by a high level of uncertainty and knowledge limitations (since pregnancy and childbirth are highly unforeseeable events) and by unpredictable and sensitive topics that are under discussion, and, on the other, Ps' involvement in the communicative dynamics of the interaction, that does not relegate them to the position of mere responders to the doctor's requests.

Finally, even data concerning subsequent turns where epistemic disclaimers appear to lead to an interpretation of them as non-problematic.

Both Ps and D mostly respond to the turn of the interlocutor in which the epistemic disclaimer appears with acceptance (for example, an explicitly expressed agreement, a backchannel, etc.). Even when D follows Ps' epistemic disclaimer with a request for clarification, there is never any hint of a devaluing attitude, but rather an attempt to negotiate meaning. In this highly collaborative context, when D intervenes to bridge the epistemic gap expressed by Ps, he does so in a mitigated manner when interpreting the reasons for a patient's emotional state, and in a more assertive manner when providing guidance on medical issues that are beyond the patient's grasp (for example, medication dosages). The use of these expressions does not undermine the epistemic personhood of the interlocutors, i.e., their ontological standing as knowers linked to their epistemic rights and obligations (see [Thorson and Baker 2019](#)).

Thus, although we found many different epistemic disclaimers used by both D and Ps, the interactions in which they appear do not seem to be mostly problematic. Firstly, as already stated, most of the disclaimers used by the participants are not directly related to the topics that should fall within their specific domain of knowledge. Secondly, even when the speaker uses an epistemic disclaimer in relation to a topic that should fall within their domain of knowledge and fails to meet the expectations of the interlocutor, the latter assumes a collaborative, constructive, and negotiating attitude. For example, D, in response to a patient who claims not to remember the date of her last period, states that he will retrieve this information from her medical record (cf. extract (4)); similarly, a patient, in response to the uncertainty shown by D regarding a surgical technique for the correction of spina bifida, responds by trying to understand the meaning of his statements (cf. extract (3)). In other words, there seems to be a willingness to negotiate between participants that limits the potential negative impact of the use of epistemic disclaimers.

Despite the absence of conversational issues and generally positive reception of epistemic disclaimers in the corpus, nonetheless, it is possible that in different clinical contexts or with other participants (such as trainees or young medical professionals), the use of these disclaimers in relation to topics expected to be within the speakers' domains of knowledge could complicate the interaction from an interactionist and epistemic standpoint, leading

to possible attacks to speakers' epistemic personhood, to criticism of them, to thinking that they are not competent enough as they should be.

Recognising that interactional difficulties could arise when disclaimers are employed alongside content that speakers are expected to know can empower healthcare professionals. On the one hand, they can opt for alternative modes of communication, where feasible, to convey the same information and effectively manage uncertainty and lack of knowledge, which are often inherent in their professions. On the other hand, they can better navigate Ps' expressions of uncertainty and unknowledge. We believe that incorporating communicative training that accounts for epistemic aspects is beneficial for patient care and should be integrated into the training curricula of healthcare professionals.

In other words, dealing with uncertainty and the limits of knowledge should be a medical competence to be included in training curricula, i.e., the ability to communicate uncertain or unknown content during interactions with patients should become a skill taught as part of specific training courses and curricula aimed at preparing doctors, and more generally, healthcare professionals, to handle such conversations with confidence (e.g., [Ledford et al. 2015](#); [Moffett et al. 2022](#); [Duval et al. 2022](#)), also during shared decision-making processes ([Berger 2015](#)). It is clear that for a "shift in mentality" ([Menichetti et al. 2021](#)) to occur, patients must also be willing to acknowledge the limitations of doctors' knowledge and have realistic expectations towards medical treatment ([Gordon et al. 2000](#)). In other words, patients need to be guided in accepting that science—and medicine in particular—cannot always provide certainty.

Accepting that uncertainty and lack of knowledge may occur during interactions can help doctors and patients feel more confident and willing to co-construct and negotiate their encounters.

We think that the value of this study lies in its contribution to the understanding of the functioning of epistemic disclaimers through the use of a combination of methodological approaches, namely epistemic theory and linguistic co-text analysis. Nonetheless, the investigation has some limitations, including a small corpus of only 12 consultations, the presence of only one male gynaecologist, and the failure to consider other socio-demographic variables. To better describe the epistemic dynamics, it would be desirable to expand the corpus, not only with respect to this specific type of interaction but also to collect further data for comparison with other types of doctor-patient interactions. This expansion would also increase the number of physicians whose communication modalities and management of epistemic disclaimers could be examined.

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Institutional Review Board Statement: The present study was conducted according to the APA Ethics Code and following the European and Italian Privacy Law, i.e., EU Reg. 679/2016 (GDPR D) and Legislative Decree n. 196/2003 (Code regarding the protection of personal data), as well as according to the guidelines of the Helsinki Declaration. Consent to participate: Data reported in this article were audio recorded a few years ago (early 2000s) by a gynaecologist, who informed his patients orally and obtained their oral consent to participate in a collection of conversational data for the research centre in Psychology of Communication at the University of Macerata (Italy). All patients were informed that (a) only the members of the research centre could access the audio-recorded data; (b) data could only be used in anonymous form for research purposes and/or possible publications. Thus, all the fragments reported in this article have been anonymised: names of persons, places and everything that could have made the interlocutors recognisable have been changed, according to the practice of Conversational Analysis. The present study has been approved by PhD meeting curriculum in Psychology, Communication, and Social Sciences, (University of Macerata. Prot.

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Appendix A. Transcription Note

[Square brackets mark the start of overlapping speech.
[[Double brackets indicate simultaneous speech orientations to prior turn.
(.)(.) (...)	Indicates a micropause.
((comment))	Additional comments from the transcriber, e.g., about features of context or delivery.
Co::lons	Show degrees of elongation of the prior sound.
Comma,	Continuation marker; indicates a suspensive tone, irrespective of grammar.
?	Questioning intonation.
!	Exclamatory intonation.
.	Falling, stopping intonation, irrespective of grammar.
Hyphen-	Marks a cut-off of the preceding sound.
>he said<	'Greater than' and 'lesser than' signs enclose speeded-up talk. They are used the other way round for slower talk.
=	'Equals' signs mark the immediate 'latching' of successive talk, whether of one or more speakers, with no interval.
.hh	Audible inbreaths.
"text"	Reported speech.

Notes

- ¹ Dialectal terms traceable to the non-standard varieties spoken in Central Italy (namely in the Marche region) recur in these exchanges.
- ² Therefore, the decision to focus on this corpus stemmed from multiple factors: firstly, its availability, secondly, it fell into a specific category of health interactions where, as a norm, pathologies are not discussed and, lastly, it offered the opportunity to compare our results with those presented by Menichetti et al. (2021) in a similar context.
- ³ The Unknowing position concerns all types of information speakers say they do not possess, they have no idea about: a piece of information *p* is communicated as missing, speakers say they have no evidential access to it, therefore, they can have no kind of epistemic commitment (neither certain nor uncertain) towards the truth of *p*, just because *p* is lacking, absent. No evidential access, no epistemic commitment. This latter requires information to be present. The information gap (caused by the absence of the source) characterising the Unknowing position corresponds to a commitment void: the speaker cannot commit to what they do not know.
- ⁴ In Italian different variants of the same expressions can be used. For example, *Io non so* can appear as such or as *Non so*, *Non lo so* [I don't know that] etc. This category also includes 1 occurrence of the expression *Non ne sono a conoscenza* and 1 of *Non conosco* (both translatable into *I don't know*), plus 1 occurrence of *Non riesco a capire* translatable as *I don't understand/I can't understand*.
- ⁵ According to the definition of the online vocabulary of the Italian language "Treccani" https://www.treccani.it/enciclopedia/interiezioni-primarie_%28La-grammatica-italiana%29/ (accessed on 10 September 2023), *boh* would be a primary interjection used to communicate uncertainty and disbelief. However, its epistemic meaning differs according to the context, moving from the communication of unknowledge to the communication of uncertainty. Even though it is a very common expression in the Italian language, in informal interactions, there are no systematic studies about its pragmatic and epistemic functions. Some authors, although in articles that do not deal specifically with this subject, suggest to translate the expression *boh* as "I do not know" (Barbieri 2014); "Who knows" (Riccioni et al. 2014); "Dunno" (Fiorentini and Sansò 2017); "I don't know" (Pietrandrea 2018). *Boh* will be the subject of a specific publication, which is currently in preparation.
- ⁶ The acronym DP stands for the medical-patient corpus, the number for the specific conversation.

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