

# Enhancing Effective Communication: Analyzing Discourse Patterns in Patient-Physician Interaction during Online Medical Consultations

Hsin-Chieh Chen

Department of Foreign Languages and Literature, National Cheng Kung University,  
Tainan, Taiwan

## ABSTRACT

Female patients, in particular, tend to seek online medical consultations to access medical resources and guidance before pursuing further therapy. In online medical consultations (OMC), patients and physicians interact, addressing health issues and determining potential solutions at the initial stage. This study aims to analyze the discourse patterns between patients and physicians during OMC, expecting that this analysis will enhance effectiveness and enable physicians to provide more effective facilitation in future OMC. The data were collected from six female patients concerned about health issues, specifically Pelvic Inflammatory Disease (PID), along with four female and two male physicians. The results indicated that the discourse patterns followed a question-to-question (Q-Q) chain while patients initiated the conversation and; a question-to-answer (Q-A) chain while the physician initiated the conversation. The conversation continued while physicians provided biomedical information. The findings reveal discourse patterns between patients and physicians in OMC, suggesting how to respond sufficiently and effectively to patients' inquiries, resolve patients' issues, and improve communication.

*Keywords:* discourse patterns, patients' utterances, physicians' utterances, online medical consultation

## 1. Introduction

The Internet has been used widely for multiple purposes and online medical consultations (OMC) are one of the kinds including telephone consultations, video consultations, and text consultations (Cao, Huang, Chao, Yang, & Luo, 2022). Patients can not only go to a hospital for a health consultation or checkup, but they also seek help through an online medical platform. Due to time limits, distance, personal schedule, privacy, experiences, and emotional filters, female patients were more actively participating in OMC (Cao, Huang, Chao,

Yang, & Luo, 2022), and around three-fourths of the inquirers were females especially young and middle-aged, which exceed the gender differences in regular health care (Umeåfjord, Sandström, Malter, & Petersson, 2008). It suggested that while female patients tended to seek help from OMC since it provided more opportunities in the healthcare-seeking process, they felt more comfortable with the absence of being watched, as well as patients could use text messages to express themselves without being interrupted by others (Cao, Huang, Chao, Yang, & Luo, 2022).

Khan, Kershaw, Madhuvrata, Radley, & Connor (2021) mentioned that telephone consultations are convenient, acceptable, and effective in addressing initial symptoms. With OMC, female patients obtain the medical information and facilitation to determine whether their problems require a pelvic examination, which helps not only female patients to respond to their concerns, but also reduce unnecessary pelvic examinations.

To respond sufficiently and effectively to female patients' inquiries regarding health problems of PID during OMC, and eliminate unnecessary pelvic examinations, this study focused on analyzing the discourse patterns of physicians' responses to patients' utterances regarding PID problems during OMC. Knowing how patients inquire about their health issues regarding PID is crucial for physicians to understand how and what to respond to the inquiries sufficiently and effectively. This study contributes by analyzing the discourse patterns between patients and physicians during medical consultations, providing insights for physicians to respond effectively and sufficiently to patients' inquiries. Additionally, helps female patients obtain necessary information regarding health issues, and reduces the likelihood of unnecessary medical waste. The research question is shown as follows.

**Research Question:** What specific patterns do patients' utterances follow when discussing Pelvic Inflammatory Disease during online medical consultations?

## 2. Literature Review

Patients seek help in OMC by describing the symptoms regarding PID or asking physicians-related questions. Physicians respond to patients based on the information that patients provide or ask patients questions to collect more information. Patient-physician conversation in OMC could be

valuable data for physician-training programs to achieve sufficient patient-physician communication. Previous studies related to "Patients' Utterances Regarding Problems of PID", "Physicians' Responses to Patients' Utterances," and "Discourse Patterns Between Patients and Physicians" are discussed in this section.

### **Patients' Utterances Regarding Problems of PID**

The definition of "utterances" is what people ask, say, react and convey which are grammatically or ungrammatically structured. Flexner and Hauck (1987) defined utterances as any speech sequence consisting of at least one word. Physicians and patients produce utterances to communicate. In this study, patients' utterances regarding the health problems of PID were the focus.

The patient's utterances regarding health problems of PID were categorized into two types. One was the patient's self-report information and the other one was the patient's initiated questions regarding health problems. In OMC, patients either self-report the symptoms or initiate questions to solve the health problem. When patients seek information from physicians, they usually ask questions, and most patients initiate questions rather than physicians (Albury, Hall, Syed, Ziebland, Stokoe, Roberts, Webb, & Aveyard, 2019). Through asking questions, patients establish their information needs (Murtagh, Furber, Thomas, 2013). Other studies also pointed out that patients who initiated either direct questions for advice or raised relevant information for physicians had an opportunity to move forward (Albury et al., 2019).

On the other hand, when patients are showered with questions, they are less likely to participate actively in the consultation and less likely to volunteer information (Li, Desroches, Yum, Koehn, & Deagle, 2007).

Instead, patients would like physicians to listen actively, provide an explanation of their concerns, volunteer information, and solve their problems (Li et al., 2007). In a later section, the literature review focuses on physicians' responses to patients' utterances.

### **Physicians' Responses to Patients' Utterances**

In the study of Frankel (1990), physician-patient conversation follows a Question-to-Answer (Q-A) or Answer-to-Question (A-Q) chain and forty percent of verbal exchanges between physicians and patients were physician questions and physicians' biomedical information regarding patients' symptoms, treatment, and instructions. Li et al. (2007) also stated that physicians asked more questions than patients (89% vs. 11%) and most questions asked by physicians were close-ended. Physicians often exert more control than patients during medical consultation (Li et al., 2007).

The most frequent exchange for physicians was information-giving followed by question-asking (Roter & Frankel, 1992). Patients have little chance to talk, instead, their task is to answer questions (Li et al., 2007). Other studies also stated that patients engaged in very little question-asking during the medical consultation (Frankel, 1990; Roter & Frankel, 1992). However, the fewer patients engaged during the medical consultation, the less active for them to receive more helpful communication from physicians. On the other hand, the majority of participation behaviors were patient-initiated (84%) (Albury et al., 2019) when patients had an opportunity to ask questions during the consultation (Li & Lundgren, 2005), and received feedback about their health problems from physicians (Evans, Stanley, & Burrows, 1992), they would have higher satisfaction toward the medical consultation.

Besides, when facing the choice of listening or talking to a patient, an experienced physician may choose to listen more than talk. (Li et al., 2007). The above literature reviews showed the interplay relationship between how patients delivered messages regarding health concerns and how physicians responded to patients' utterances. Prior studies revealed that during medical consultations, some patients listened more, talked less, engaged less, and primarily answered questions posed by physicians, receiving fewer helpful resources from the physicians. In contrast, other patients asked more questions and obtained feedback from physicians, which led to higher satisfaction with the consultations. Therefore, investigating the discourse patterns between patients and physicians would be beneficial to build a network of effective and advantageous communication during medical consultations.

### **Discourse Patterns Between Patients and Physicians**

The interaction between patients and physicians is valuable information, particularly verbal interaction regarding patients' health problems. Patients' satisfaction toward OMC is associated with physician conversational style (Buller & Buller, 1987; Bertakis, Roter, & Putman, 1991) and patients prefer a consultative communication style with an authoritative approach (Bertakis *et al.*, 1991; Bradley, Sparks, & Nesdale, 2001). Besides, the discourse patterns between patients and physicians during medical consultation follow certain patterns: opening, complaint, examination, diagnosis with treatment or advice, and then closing (Tsai, 2018). Other studies categorized the talk into three domains: initiating; carrying out; and closing health behavior change talk (Albury et al., 2019). The process of medical consultations

follows three main steps: opening, carrying out, and closure. To conclude, during the step of carrying out, covering complaint, examination, and diagnosis with treatment or advice.

Previous studies discussed patterns, domains, and steps during the medical consultation, but few studies focused on discourse patterns of patients' utterances regarding health problems of PID and physicians' responses in OMC. Therefore, this study emphasized analyzing the discourse patterns of patients' utterances regarding health problems of PID and physicians' responses in an OMC. By analyzing the communication patterns between patients and physicians, the findings aim to help physicians respond more effectively to patients. This can lead to improved OMC experiences and reduce the likelihood of unnecessary pelvic examinations, thereby minimizing medical waste.

### 3. Methodology

Participant's information, setting, data collection procedure, analytical framework, and data analysis are introduced in this section. More details are provided in the subsequent section.

#### Participant & Setting

The utterances of six anonymous female patients inquiring about health problems related to PID on the OMC platform *Chunyuyisheng* were chosen since their ages were from twenty to thirty, respectively 20, 21, 25, 29, 30, and 30. These ages are considered to be in the young to middle-aged range. Besides, they are all females and have similar health issues regarding PID. Six physicians, two males, and four females, were selected as participants since they are qualified physicians and capable of answering the questions related to PID. The discourse patterns between six female

patients and six physicians were collected from an OMC and presented in written forms.

Patients paid to consult an OMC platform in China, called *Chunyuyisheng* which provided health advice, diagnosis, and suggestions for treatment. On *Chunyuyisheng*, patients consulted about health issues and physicians gave instant responses. Firstly, patients described their health problems or inquired about information regarding PID in OMC, and physicians responded to patients' utterances with either biomedical information or questions. The utterance patterns between patients and physicians formed a question-to-answer (Q-A) or answer-to-question (A-Q) chain. A question followed by an answer, or an answer followed by a question, recurring until the patient's health issues were solved.

#### Data Collection Procedure

The discourse between patients and physicians was presented in written form, retrieved from *Chunyuyisheng*, an OMC. The data collected focused solely on female patients' health problems related to PID, with their ages ranging from twenty to thirty, considering them to be in the young to middle-aged range. Physicians' gender was not taken into account since all were qualified physicians, and their responses were not considered potentially biased. Two analytical frameworks were used to analyze female patients' utterances and physicians' responses, focusing on the discourse patterns between female patients and physicians.

#### Analytical Framework

Types of patient utterances were adapted from Frankel's research (1990), *Talking In Interviews: A Dispreference For Patient-Initiated Questions In Doctor-Patient Encounters*. The two types of patient utterances are identified as type 1: sequentially modified questions, and type 2: questions in response to those solicited by the

physician. These two types were used to examine patient utterances with physicians regarding solving the health problems of PID in OMC. The definitions of each type are provided, and examples are shown in Table 1.

1. Modified question sequentially: the questions asked by the patient are prefaced by a query or a notice.
2. Questions in response to solicit by the physician: new information is provided by the patient by forecasting a new phase of the interview and the close of the ongoing sequence.

Table 1  
Types of Patients' Utterances and Examples

Type of Patients' Utterances	Description	Examples
Sequentially modified questions	The questions asked by the patient is prefaced by a query or a noticing.	Pt: 上個月經同房會這個月有盆腔炎嗎? (Pt: I had sex last month, will I have PID this month?)  Ph: 你好, 請問你現在有什麼不舒服的症狀嗎? (Ph: Hi, Any discomfort?)
Questions in response to solicit by the physician	The solicit warrants new information from the patient by forecasting a new phase of the interview and the close of the ongoing sequence.	Ph: 那你查過和子宮內膜異位症相關的這些檢查嗎? (Ph: Have you had any examination related to Endometriosis?)  Pt: 當時也檢查過盆腔炎, 就因為沒有腹痛、反跳痛, 所以一直沒有診斷盆腔炎。我想問下, 還有別的方法能檢查出我這到底是是不是盆腔炎嗎? (Pt: I checked PID but not the case since I didn't feel pain when the physician pressed on the abdomen? Is there any way to know if I have PID now?)

Another framework used to examine patient-physician talk was adapted from Li et al. (2007), a research called "*Asymmetrical Talk between Physicians and Patients: A Quantitative Discourse Analysis*". The talk between physicians and patients can be categorized into four types: (1) close-ended questions, (2) open-ended questions, (3) biomedical information, and (4) facilitation. These four categories were used to examine the discourse patterns between patients and physicians. Here are the definitions of each category. Examples are shown in Table 2.

1. Close-ended questions. Physicians ask patients yes-no questions, and patients respond with limited answers such as yes or no.
2. Open-ended questions. Physicians ask patients wh-question, and patients answer with statements.

3. Biomedical information. Physicians provide patients with biomedical information.

4. Facilitation. Physicians facilitate patients with a possible diagnosis or suggestions for treatment.

Table 2  
Patient-Physician Talk and Examples

Patient-Physician talk	Description	Examples
closed-ended questions	Physicians ask patients yes-no questions. Patients respond with the limited answer such as yes or no.	Ph: 能排除懷孕嗎? (Ph: Can you be sure you are not pregnant?)  Pt: 可以的。(Pt: Of course. I am not pregnant.)
open-ended questions	Physicians ask patients wh-question. Patients answer with statements.	Ph: 請問這種情況有多久了? (Ph: How long has it lasted for?)  Pt: 半個月左右。(Pt: Around two weeks.)
biomedical information	Physicians provide patients with biomedical information.	Ph: 小腹疼痛, 可以伴隨白帶增多, 婦科檢查可以有子宮附近壓痛。 (Ph: You may have abdominal pain and generate more leucorrhea. Through a gynecology exam, you may feel the pain when the physician pressed on your uterus area.)  Pt: 我沒敢做婦科檢查。 (Pt: I am afraid of having a gynecology exam.)
facilitation	Physicians facilitate patients with a possible diagnosis or suggestions for the treatment.	Ph: 可以口服甲硝唑, 阿莫西林和婦炎靈。 (Ph: You can take metronidazole, amoxicillin and Fuyanling Pian.)  Pt: 好的 明天直接去做B超看一下吧。 (Pt: Okay. I will have an ultrasound diagnosis tomorrow.)

The discourse patterns between patients and physicians were analyzed based on these two frameworks. Data analysis and findings were elaborated in a later section.

#### 4. Data Analysis

Data were gathered from *Chunyuyisheng*, an OMC in China, and analyzed using two frameworks (Frankel, 1990; Li et al., 2007). Patient utterances were retrieved and analyzed as follows: In excerpts 1, 2, and 3, categorized as "Sequentially modified questions," patients initiated the questions, and physicians responded with another question to collect more information, forming a Q-Q chain. This suggests that both patients and physicians ask questions to address health issues.

##### Excerpt 1

1. Pt: 醫生。盆腔炎怎麼能查出來?

(Pt: Doctor, how do I know if I have PID?)

2. Ph: 你好, 你有什麼症狀嗎?

(Ph: Hi, What symptoms do you have?)

**Excerpt 2**

3. Pt: 盆腔炎是怎麼症狀? 會引

起腿抬不起來嗎?

(Pt: How do I know if I have PID? Will I have a problem lifting my legs?)

4. Ph: 你好, 請問類似症狀出現

多長時間了?

(Ph: Hi, How long has this symptom lasted?)

**Excerpt 3**

5. Pt: 上個月經同房會這個月得

盆腔炎嗎?

(Pt: I had sex last month, will I have PID this month?)

6. Ph: 你好, 請問你現在有什麼

不舒服的症狀嗎?

(Ph: Hi, Any discomfort?)

Another type of patient utterance is "Questions in response to solicits by the physician." Excerpts 4 and 5 were retrieved from the participants from the OMC that the discourse patterns follow the sequence of "Patients asked questions in response to physicians' questions". To explain in detail, the physician asks the question to ensure the symptoms if related to the PID, and patients answer the question by asking questions to respond to the physician's question.

**Excerpt 4**

7. Ph: 那你查過和子宮內膜異位

症相關的這些檢查嗎? (Ph:

Have you had any examination of Endometriosis?)

8. Pt: 當時也檢查過盆腔炎, 就因

為沒有壓痛。反跳痛, 所以一

直沒有診斷盆腔炎。我想問下,

還有別的方法能檢查出我這

到底是不是盆腔炎嗎? (Pt: I

checked for PID, but it doesn't seem to be the case since I didn't feel any pain when the physician pressed on my abdomen. Is there any way to confirm if I have PID now?)

**Excerpt 5**

9. Ph: 嗯... 目前我可以給你的

幫助是? (Ph: Hm...How could I assist you now?)

10. Pt: 就是想知道這個情況到底

是偏向哪個症狀? 我心裡也好

有個底, 然後再去醫院做正規

檢查。(Pt: I just want to know what disease it might be so I can take the appropriate actions and visit a hospital for a checkup.)

In terms of physicians' responses to patients' utterances, there were four types: close-ended questions, open-ended questions, biomedical

information, and facilitation. In this section, physicians' responses were analyzed and discussed. Excerpts 6, 7, and 8 showed that physicians tended to raise open-ended questions followed by providing biomedical information. Close-ended questions were introduced after the biomedical information was given. Biomedical information was provided by physicians after each question. Physicians provided patients with a possible diagnosis and treatment suggestions, and then the consultation was concluded. This chain of questions and biomedical information continued until the patient's health problems were resolved. The discourse patterns of physicians' responses to patients' utterances are shown in Table 3.

**Table 3**

*Discourse Patterns of Physicians' Responses to Patients' Utterance*

Discourse Patterns of Physicians' Responses		
Phase 1	Open-Ended Question	Q
Phase 2	Biomedical Information	A
Phase 3	Close-Ended Question	Q
Phase 4	Biomedical Information	A
Phase 5	Facilitation	A

**Excerpt 6**

11. Ph: 你好，請問有什麼症狀嗎？

(Ph: Hi, may I know what symptoms do you have?) → open-ended question

12. Pt: 我是之前性生活的時候出

現過小腹痛，然後有時候會右

側腰疼，月經前會加重，有時

候有外陰瘙癢，白帶有時候正

常，有時候是豆腐渣狀，之前

感染過一次尿道炎，就這些症

狀。(Pt: I experienced cramps in

my lower abdomen and

occasionally on the right side of

my waist during sex, especially

before my period. Sometimes, I

also had itching in the vulva.

My leukorrhea was generally

normal but occasionally

abnormal. Additionally, I had

urethritis once before.)

13. Ph: 白帶豆腐渣，說明有黴菌

性陰道炎，小腹痛可以是盆腔

炎的表現。(Pt: White, curd-like

discharge indicates a yeast

infection and lower abdominal

pain could be a sign of pelvic

inflammatory disease.)

→ biomedical information

14. Ph: 小便如何？(Ph: Was

everything normal with your

urine?) → close-ended

question

15. Pt: 小便正常。(Pt: It was fine.)

16. Ph: 小便正常的話，考慮和泌

尿系統沒有關係。(If

everything was normal, it may

not be related to the urinary

system.) → biomedical

information

17. Ph:腹痛、腰痛可能和盆腔炎

有關。(Abdominal pain and lower back pain may be related to PID.) → biomedical information+facilitation

18. Pt:好的，謝謝醫生。(Pt: OK. Thanks.)

### Excerpt 7

19. Pt:醫生。盆腔炎怎麼能查出來？  
(Pt: How can I check if I have been infected with PID?)

20. Ph:你好，你有什麼症狀嗎？  
(Ph: Hello, what symptoms are you experiencing?)  
→ open-ended question

21. Pt:我下面疼。(Pt: I have pain in my lower pelvic area.)

22. Ph:盆腔炎首先都會有自覺症狀。(Ph: You may experience certain symptoms if you are infected with PID.)

23. Pt:我去醫院跟醫生說我下面不舒服，然後醫生就給我做了一個陰超和白帶。(Pt: I went to the hospital and told the doctor about my symptoms. The doctor then performed gynecologic ultrasonography and checked the leucorrhea.)

24. Ph:小腹墜痛，可以伴隨白帶

增多，婦科檢查可以有子宮附

近區壓痛。(Ph: Abdominal pain and an increase in leucorrhea could be symptoms of an issue. A gynecological examination may be necessary to check for pain around the womb.) → biomedical information

25. Pt:我沒敢做婦科檢查。(Pt: I am afraid to have the gynecological examination.)

26. Pt: (圖片因隱私問題無法顯示)這是檢查報告。(Pt: This is the report.)

27. Ph:只是輕度陰道炎。(Ph: It's just a mild case of vaginitis.) → biomedical information

28. Ph:要做婦科雙合診，做這個檢查可以確定是否有盆腔炎。(You may need to have a gynecological examination to determine if you are infected with PID.)  
→facilitation

### Excerpt 8

29. Pt:盆腔炎是怎麼症狀，會引起腿抬不起來嗎？(Pt: What symptoms would I experience if



- I am infected with PID? Will I still be able to lift my legs?) → open-ended question
30. Ph: 你好，請問類似症狀出現多長時間了？ (Ph: Hi, how long have you been experiencing this symptom?) → open-ended question
31. Pt: 有十幾天了。走路牽扯腹痛。翻身感覺痛。(Pt: More than ten days. I've had abdominal pain while walking and felt pain when rolling over.)
32. Ph: 你月經多長時間了？ (Ph: When was your last period?) → open-ended question
33. Pt: 產後兩個多月。(Pt: Two months after laboring.)
34. Ph: 你做復查了嗎？你是剖宮產的還是順產的？ (Ph: Did you check after laboring? Did you have a cesarean section or normal spontaneous delivery?) → closed-ended question
35. Pt: 順產的，40 多天做過彩超，正常。(Pt: Normal spontaneous delivery. An ultrasound showed everything was normal 40 days postpartum.)
36. Ph: 那你怎麼知道現在是有盆腔炎呀？ (Ph: Then, how do you know that you have PID?)
37. Pt: 但是是這樣，後來我夾腿自慰了，然後出了一點點血，我就沒管。(Pt: I masturbated and then experienced some bleeding, but I didn't do anything about it.)
38. Ph: 不一定是盆腔炎。(Ph: It may not be PID.) → biomedical information
39. Pt: 我也不知道呀，就覺得一走路腹痛，所以才諮詢呀。(I don't know either. I had an abdominal pain while walking so that's why I consulted here.)
40. Ph: 現在不流血了吧？ (Ph: Does the bleeding stop now?) → closed-ended question
41. Pt: 沒有了，也沒有異味，白帶也可以。(Pt: No, there's no odor. The leucorrhea is normal.)
42. Ph: 還是因為你生完以後沒有恢復好，你在自慰的時候牽扯到了，需要慢慢的恢復，你補點鈣吧。(Ph: You haven't fully recovered after labor, and you injured yourself while masturbating. You need more time to heal and should take

- some calcium tablets.) -  
->biomedical information
43. Pt:但是現在特別嚴重，翻不了身子，走不了路。(Pt: It's quite serious now because I can't roll over or walk.)
44. Ph:這是骨盆出現了問題。盡量少活動。(Ph: Your pelvis is having problems, so try to avoid moving around.) → biomedical information
45. Pt:那怎麼辦？有什麼藥吃嗎？  
(Pt: What can I do? Is there any medication I should take?)
46. Ph:你可以用個束縛帶勒住。  
(Ph: You can use staylances for support.) → facilitation

### Finding

In response to the research question "What specific patterns do patients' utterances follow when discussing Pelvic Inflammatory Disease during online medical consultations?", it was found that patients' utterances changed during different phases of the consultation: beginning, during, and closure. At the beginning of the consultation, either patient-initiated questions or physicians asked wh-questions. Primarily, questions were used to initiate the conversation. During the consultation, two distinct discourse patterns emerged, based on who initiated the conversation. In the first pattern, patients initiated the conversation, leading to a tendency of the Q-

Q chain. Four patients initiated questions while two patients described their symptoms or provided self-reported information. Then physicians responded to patients' questions with questions of their own to collect more information. When the symptoms appeared unrelated to PID, physicians shifted to asking more yes-no and wh-questions and requested self-reported information from the patients. patients tended to initiate questions more than self-reported information. Through asking questions, both sides were able to understand the problems more precisely to solve problems. Refer to Table 4 for an outline of the first discourse pattern between patients and physicians in OMC.

**Table 4**

*The First Discourse Pattern between Patients and Physicians in OMC.*

Participant	Conversation in OMC	Discourse Pattern
Patients	They initiated questions.	Q
Physicians	They responded to patients with questions. They asked more questions to clarify and for more information.	Q

The second pattern occurred when physicians initiated the conversation, leading to a Q-A chain. Physicians typically began with open-ended questions, followed by patients' responses. Physicians then provided biomedical information and continued with close-ended questions. After gathering more information from the patients, physicians offered additional biomedical details. Finally, physicians provided facilitation, a possible diagnosis, or treatment suggestions. Refer to Table 5 for an outline of the second discourse

pattern between physicians and patients in OMC.

**Table 5**

*The Second Discourse Pattern between Physicians and Patients in OMC.*

Participant	Conversation in OMC	Discourse Pattern
Physicians	They started with open-ended questions	Q
Patients	They answered the open-ended questions.	A
Physicians	They provided patients with biomedical information and asked close-ended questions.	Q
Patients	They answered the close-ended questions.	A

In conclusion, Q-Q discourse patterns occur when patients initiate the conversation, and physicians respond with another question to collect more information; whereas Q-A discourse patterns occur when physicians take the lead. This indicates that in OMC, questions are the driving force of the conversation, regardless of who initiates it. Furthermore, it was observed that each question was followed by a response, typically involving biomedical information provided by the physicians. This underscores the crucial role physicians play in delivering biomedical information to sustain the consultation and in asking questions to gather essential information for determining whether the symptoms are related to PID.

## 6. Discussion and Conclusion

This study explored the discourse patterns between patients and physicians in OMC, specifically during consultations

concerning health issues related to PID. In this current study, the findings reveal two distinct discourse patterns: a Q-Q chain when patients initiated the conversation, and a Q-A chain when physicians took the lead. The dialogue was sustained by physicians providing biomedical information and asking questions to gather essential information before making a diagnosis. The aim is to enhance the effectiveness of medical consultations in OMC and to provide essential support for patients utilizing online medical platforms.

A previous study (Frankel, 1990) stated that physician-patient conversation follows a Q-A or A-Q chain, and forty percent of information exchanged were physician questions and biomedical information regarding patients' symptoms, treatment, and instructions provided by physicians. Whereas, this study discovered one more discourse pattern: a Q-Q chain occurs when physicians initiate the conversation during the medical consultation in OMC. Other studies have indicated that the most frequent interactions for physicians involve information-giving, followed by question-asking (Roter & Frankel, 1992), with patients primarily tasked with answering questions and having little opportunity to speak (Li et al., 2007). However, this study found that in OMC, physicians not only provided information but also asked additional questions in response to patients' inquiries. Patients had opportunities not only to answer questions but also to ask their own, particularly when the symptoms were related to PID. Regarding the similarity with the prior study, this study focused on OMC, while previous research (Albury et al., 2019) focused on face-to-face medical consultations; both typically follow three phases: initiating, carrying out, and closing.

Due to the limited number of databases that met the research criteria, the data

analysis was constrained, and the results may be insufficient. Additionally, the gender of the physicians was not considered in this study, which could limit the findings to one gender or overlook potential differences in discourse patterns between male and female physicians. It is suggested that future research should expand the number of databases and either focus on female or male physicians as participants or compare the differences in their discourse patterns when responding to patients.

This study found that Q-Q chains occur more frequently when patients initiate the conversation, while Q-A chains are more common when physicians initiate the

discussion. Additionally, this study explored the differences and similarities with previous research on discourse patterns. It revealed that Q-Q chains also occur in interactions between physicians and patients, rather than being limited to Q-A or A-Q sequences. Furthermore, both OMC and face-to-face medical consultations typically follow the phases of initiation, execution, and closure. This study makes a valuable contribution to physicians by enhancing the effectiveness of conversations in OMC and provides immediate suggestions to improve satisfaction for female patients dealing with PID-related health issues while using OMC.

### References

- [1] Albury, C., Hall, A., Syed, A., Ziebland, S., Stokoe, E., Roberts, N., Webb, H., & Aveyard, P. (2019). Communication practices for delivering health behavior change conversations in primary care: a systematic review and thematic synthesis. *BMC Family Practice*, 20(1), 1-13.
- [2] Bertakis, Klea D., Roter, Debra, & Putnam, Sean M. (1991). The relationship of physician medical interview style to patient satisfaction. *The Journal of Family Practice*, 32, 175-181.
- [3] Buller, Mary K., & Buller, David B. (1987). Physicians' communication style and patient satisfaction. *Journal of Health and Social Behavior*, 28, 375-388.
- [4] Bradley, Graham, Sparks, Beverley, & Nesdale, Drew. (2001). Doctor communication style and patient outcomes: Gender and age as moderators. *Journal of Applied Social Psychology*, 31, 1749-1773.
- [5] Cao, B., Huang, W., Chao, N., Yang, G., & Luo, N. (2022). Patient activeness during online medical consultation in China: multilevel analysis. *Journal of Medical Internet Research*, 24(5), e35557.
- [6] Evans, Barry J., Stanley, Robb O., & Burrows, Graham D. (1992). Communication skills training and patients' satisfaction. *Health Communication*, 4, 155-170.
- [6] Flexner, S.B. And L.C. Hauck. (1987). *The Random House Dictionary of the English Language: second edition*. New York: Random House.
- [7] Frankel, Richard M. (1990). *Talking in interviews: A dispreference for patient-initiated questions in doctor-patient encounters*. Interactional competence, ed. by G. Psathas, 231-62: University Press of America.
- [8] Khan, Z. M., Kershaw, V., Madhuvrata, P., Radley, S. C., & Connor, M. E. (2021). Patient experience of telephone consultations in gynaecology: a service evaluation. *BJOG: An International Journal of Obstetrics & Gynaecology*, 128(12), 1958-1965.
- [9] Li, Han Z., & Lundgren, Juanita. (2005). Training patients to ask information verifying questions in medical interviews. *Health Education*, 105, 451-466.
- [10] Li, H., Desroches, N., Yum, Y., Koehn, C., & Deagle, G. (2007). Asymmetrical Talk between Physicians and Patients: A

Quantitative Discourse Analysis. *Canadian Journal of Communication*, 32(3). doi:<https://doi.org/10.22230/cjc.2007v32n3a1959>

[11] Murtagh GM, Furber L, Thomas AL. (2013). Patient-initiated questions: How can doctors encourage them and improve the consultation process? A qualitative study. *BMJ Open* 2013;3:e003112. doi: 10.1136/bmjopen-2013-003112

[12] Tsai, Mei-Hui. (2018). 'That's exactly what I will share with you today!' Negotiation

for a Ticket of Entry to Unsolicited Health Education Talks. *Language and Communication*, 58, 80-92.

[13] Roter, Debra L., & Frankel, Richard. (1992). Quantitative and qualitative approaches to the evaluation of the medical dialogue. *Social Science & Medicine*, 34, 1097-1103.

## 有效溝通：言談分析在線上醫療諮詢時患者與醫生互動的交談

陳欣潔

國立成功大學外國語文學系

### 摘要

女性患者特別傾向於透過線上醫療諮詢來獲取醫療資源和指導，以便在進一步治療之前獲得幫助。在線上醫療諮詢（OMC）中，患者和醫生互動，解決健康問題並在初期階段確定潛在解決方案。本研究旨在分析患者和醫生在 OMC 期間的對話模式，期望通過此分析提升諮詢的有效性，使醫生在未來的 OMC 中能夠提供更有效的幫助。數據來源於六名關注健康問題，特別是骨盆腔炎（PID）的女性患者，以及四名女性和兩名男性醫生。結果顯示，在病人主動開始對話時，話語模式呈現出「問-問」的形式；而當醫生主導對話時，則呈現出「問-答」的格式。對話的延續依賴於醫生所提供的生物醫學信息。這些發現揭示了 OMC 中病人和醫生之間的話語模式，並如何充分且有效地回應病人的問題，解決病人的困擾，並改善溝通。

關鍵字：言談分析、病患話語、醫生話語、線上醫療諮詢