



The Prescribing and Dispensing of Phosphodiesterase Type 5 Inhibitors in South Korea: A Questionnaire Survey of Patient Discomfort

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Purpose: This study was performed to investigate the discomfort reported by patients taking phosphodiesterase type 5 inhibitors (PDE5Is) in clinical practice.

Materials and Methods: From September 2011 to March 2012, we surveyed patients who were prescribed PDE5Is for erectile dysfunction (ED). The questionnaire elicited information concerning: patient characteristics, medication counseling received and inconveniences experienced in hospitals and at pharmacies, effects of PDE5Is, and the separation of the prescribing and the dispensing of PDE5Is.

Results: A total of 237 patients completed the questionnaire (mean age: 58.81 ± 9.14 years). Among the 62 patients (26.0%) who reported having encountered some inconveniences in hospitals, the most frequently expressed concerns 'assistant staff,' including nurses (38.7%), 'testing procedures' (27.4%), and 'the issuing of prescriptions' (22.6%). Of the 137 patients (57.8%) who noted inconveniences in obtaining medications from pharmacies, 60.6% cited 'self-consciousness' as the most common reason, followed by 'insufficient medication counseling' (22.6%), and 'absence of consultation' (11.6%). In contrast, 82% of the patients were satisfied with the medication counseling that they had received in hospitals, covering drug usage, side effects, and precautions regarding PDE5Is; this proportion was only 30% for pharmacies. Further, most patients (89%) indicated that they preferred to obtain their prescriptions and medications for ED from the hospital at the same time.

Conclusions: Treatment of ED is a highly private matter. According to the survey, ED patients more often felt that obtaining medication from pharmacies was inconvenient. The sociocultural aspects of ED necessitate that exceptions to separating the prescribing and the dispensing of medication be considered.

Key Words: Erectile dysfunction; Phosphodiesterase 5 inhibitors; Prescriptions

INTRODUCTION

Erectile dysfunction (ED) is defined as the inability to at-

tain or maintain penile erection sufficient for satisfactory sexual performance [1]. According to prevalence data, ED is known to occur in 16.0% to 34.8% of the world's male

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population, and as age increases, its incidence rises [2-6]. Additionally, prior research has established that patients suffering from ED are more prone to stress or psychiatric problems, such as depression [7,8].

Although phosphodiesterase type 5 inhibitors (PDE5Is) have shown positive results in treating ED, patients in South Korea's health care system have complained of the inconvenience of receiving prescriptions for PDE5Is in hospitals and then obtaining their medication at pharmacies. As pharmacies are open, public places where a number of people or customers may be present at any given time, the privacy that ED patients seek with respect to their condition may be compromised.

In this study, we attempted to investigate the discomfort experienced by patients taking PDE5Is in clinical practice.

MATERIALS AND METHODS

Between September 2011 and March 2012, we surveyed patients who had been prescribed PDE5Is for ED at the Korea University Guro Hospital. Approval for this study was obtained from the Institutional Review Board of the hospital, and informed consent was obtained from each patient.

A structured, self-administered questionnaire was developed to examine the medication counseling that the patients had received and the inconveniences that they had experienced in hospitals and at pharmacies.

The questionnaire contained items on patients' 1) age, 2) underlying disease, and 3) other medications for co-morbidities, as well as 4) any inconvenience felt during the process of being prescribed PDE5Is at the hospital, 5) any inconvenience felt during the process of dispensing PDE5Is at a pharmacy, 6) medication counseling received in the hospital, 7) medication counseling received at the pharmacy, 8) satisfaction with the therapeutic effects of PDE5Is, and 9) the separation of the prescribing and the dispensing (SPD) of PDE5Is (Supplement).

For items 1 to 3, the investigating physicians retrospectively ascertained the presence of concurrent illnesses through the survey data and the patients' medical records. Patients who indicated having felt inconvenienced in response to items 4 and 5 were instructed to describe their answers in further detail. As for information regarding medication counseling obtained via items 6-1

and 7-1, the following factors were examined: A) the appropriate time to take the medicine before intercourse, B) the adjusted/modified time at which the medicine is to be taken after consuming fatty foods, C) the daily dosage limit or frequency of medicine intake, D) the patient's behavior or conditions necessary for the medication to be effective, E) the duration for which effects are expected to be sustained after taking the medicine, and F) explanations regarding the accompanying side effects. Additionally, patients' satisfaction with medication counseling received in hospitals and pharmacies were ascertained from their responses to items 6-2 and 7-2, while item 8 evaluated the satisfaction with the therapeutic effects of PDE5Is. Finally, item 9 assessed patient' preferences for the prescribing and the dispensing of PDE5Is; namely, if the patients preferred to obtain their medication from a pharmacy after receiving their prescriptions (as present), or from respective hospitals along with the prescriptions.

RESULTS

1. Patient characteristics

Among the 273 patients who were interviewed, 34 patients refused to participate in the study and 2 patients withdrew their consent during the interview. A total of 237 patients completed the questionnaire (answer rate: 86.8%). The mean age of the respondents was 58.81 ± 9.14 years. The patients had various underlying diseases, including hypertension (20.7%), diabetes mellitus (10.5%), coronary artery disease (2.9%), and several others (e.g., renal disease and hyperlipidemia) (5.5%). Meanwhile, 56 patients (23.6%) were taking other medicines at that time (Table 1).

Table 1. Characteristics of patients (n=237)

Characteristic	Value
Age (yr)	58.81 ± 9.14
Comorbidity	
Hypertension	49 (20.7)
Diabetes mellitus	25 (10.5)
Coronary artery disease	7 (2.9)
Others	13 (5.5)
History of other drugs	56 (23.6)

Values are presented as mean \pm standard deviation or number (%).

Table 2. Patient's discomfort in hospitals and pharmacies during the prescribing and the dispensing of phosphodiesterase type 5 inhibitors

Reasons	Value
In hospitals	62/237 (26.0)
Inconveniences related to assistant staff, including nurses	24/62 (38.7)
Inconvenient testing procedure	17/62 (27.4)
Inconvenience pertaining to the issuing of prescriptions	14/62 (22.6)
Others	7/62 (11.3)
At pharmacies	137/237 (57.8)
Self-consciousness	83/137 (60.6)
Insufficient medication counseling	31/137 (22.6)
Absence of consultation	16/137 (11.7)
Others	7/137 (5.1)

Values are presented as number/total number (%).

2. Survey data

Approximately 62 patients (26.0%) reported experiencing some degree of inconvenience in the process of acquiring a prescription for PDE5Is in the hospitals. The most frequently expressed concerns were 'assistant staff,' including nurses (38.7%), 'testing procedures' (27.4%), and 'the issuing of prescriptions' (22.6%). On the other hand, 137 patients (57.8%) expressed inconveniences in obtaining the prescribed PDE5Is at pharmacies, with 60.6% citing 'self-consciousness' as the main reason, followed by 'insufficient medication counseling' (22.6%) and 'absence of consultation' (11.7%) (Table 2).

Medication counseling in hospitals covered the following areas: 'the appropriate time to take the medicine before intercourse' (62.2%), 'the adjusted/modified time at which the medicine is to be taken after consuming fatty foods' (30.5%), 'the daily dosage limit or frequency of medicine intake' (56.2%), 'the patient's behavior or conditions necessary for the medication to be effective' (30.5%), 'the duration for which effects are expected to be sustained after taking the medicine' (42.8%), and 'the accompanying side effects' (52.1%). Medication counseling occurring in pharmacies addressed these topics with the following rates of frequency according to the patients' responses: 30.2%, 11.5%, 26.8%, 14.2%, 14.2%, and 15.6%, respectively (Fig. 1). While 82% of the patients were satisfied with the medication counseling that they had received on drug usage, side effects, and

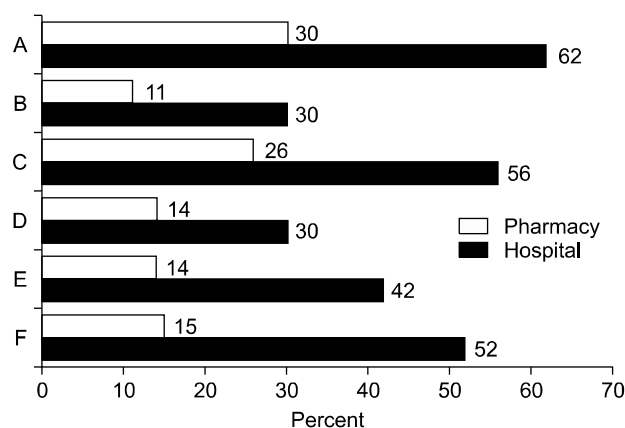


Fig. 1. Status of medication counseling. A: the appropriate time to take the medicine before intercourse, B: the adjusted/modified time at which the medicine is to be taken after consuming fatty foods, C: the daily dosage limit or frequency of medicine intake, D: the patient's behavior or conditions necessary for the medication to be effective, E: The duration for which effects are expected to be sustained after taking the medicine, F: explanations regarding the accompanying side effects.

precautions regarding PDE5Is in hospitals, only 30% expressed such satisfaction with respect to pharmacies.

In terms of the effectiveness of PDE5Is, about 159 patients (67.1%) answered that they were satisfied with its therapeutic effects, whereas 78 (32.9%) responded to the contrary. The reasons for dissatisfaction included insufficient rigidity and duration (65.3% and 61.5%, respectively), the presence of side effects (38.5%), and difficulty in hiding their use of the medication for ED from their sexual partner (32.0%).

Most patients, 89%, revealed that they preferred to obtain their prescriptions and medications for ED from the hospital at the same time.

DISCUSSION

Since sildenafil was first released in 1998, the introduction of PDE5Is in recent years has increased the therapeutic options for male sexual disorders and led to a change in the numbers of patients seeking medical help [2]. PDE5Is have become the primary form of therapy and preferred treatment for ED. In the Cologne Male Survey [2], 73.8% of the respondents indicated that they preferred oral treatments or medications for ED.

Before they can begin taking PDE5Is, ED patients in

Korea are required to see two health care providers: one of them, a physician (e.g., a urologist), and the other, a pharmacist. In 2000, the Korean government instituted the SPD of medications to provide greater differentiation between the roles of physicians and pharmacists [9-12]. Since the introduction of SPD, patients first consult with their physicians, obtain their prescriptions in the hospital, and then go to the local pharmacy where they receive the medications.

In the pharmaceutical affairs law, there are some exceptions to SPD, one of which pertains to psychiatric drugs. Due to the nature of psychiatric diseases, patients do not want their medical histories or medications to become known to other people. As most pharmacies do not have a private space in which psychiatric patients can be assured of their privacy, a majority of these patients are allowed to obtain their medication in the physicians' offices instead.

We suggest that the same exception be applied to ED patients, due to the nature of ED, wherein patients are frequently self-conscious of having to take medication for their condition. Over the treatment period, physicians are able to build a rapport with patients, which is fundamental to ED patients and their urologists. Appropriate patient counseling and follow-up is necessary to overcome psychological and partner issues [13].

Several sociocultural and economic factors appear to prevent individuals from seeking medical help for ED in Asian as compared to Western countries [14-16]. Research by Nicolosi et al [14] revealed that East Asians (people from China, Hong Kong, Taiwan, South Korea, and Japan) were less likely to act on ED than Southeast Asians. Predominant cultural and religious influences, such as those of Confucianism in East Asia, may contribute to sexual attitudes and preferences with respect to the treatment of ED [14]. Additionally, patients suffering from ED are more prone to stress or psychiatric problems, such as depression [7,8].

Unlike physicians' offices where ED patients are able to meet in private with their physicians to discuss their condition and treatment options, pharmacies are open, public spaces where patients are required to meet relatively unfamiliar pharmacists who may be female or someone whom they have not met before. This could cause sig-

nificant stress in ED patients, who sometimes lack the ability to cope with stress, which could disrupt the continuity or effectiveness of treatment.

In this study, we aimed to identify inconveniences that the patients experienced in the process of acquiring prescriptions and medications. We found that 57.8% of the respondents reported inconveniences in obtaining the prescribed PDE5Is from pharmacists. The most common concern of patients receiving medication at the pharmacy was a feeling of a lack of privacy and embarrassment. On the other hand, 26.0% of the respondents reported inconveniences in the hospitals. The most common discomfort in the hospitals was the inconvenience related to the assistant staff, including nurses. At both pharmacies and hospitals, the main concern of ED patients was 'self-consciousness' that might be influenced by predominant cultural and religious influences. Sociocultural factors (e.g., lack of sexual education and cultural taboos about sex) appear to prevent patients from seeking a solution for sexual problems. For the ED patients, special attention should be taken to build rapport in the comfortable environment [17,18].

Another complaint of patients receiving medication at the pharmacy was insufficient medication counseling. Although the patients with ED received medication counseling from their physician, they wanted additional medication counseling from the pharmacist. However, most pharmacies have a privacy problem, and the pharmacist was hardly able to provide medication counseling to patients. While most patients were satisfied with the level of medication counseling in the hospitals, fewer patients were satisfied with the medication counseling from the pharmacy.

A limitation of the present study was its relatively small respondent population. However, to the best of our knowledge, few studies have been conducted on the discomfort or the inconveniences that patients experience in the prescribing and the dispensing of medication for ED. Therefore, our findings are meaningful as they reflect the important yet rarely examined needs of patients suffering from ED from this aspect of the treatment. However, a larger multicenter study is needed to confirm these results.

CONCLUSIONS

The treatment of ED is a highly private matter for many individuals. According to the survey, ED patients more often felt that obtaining medication from pharmacies was inconvenient. Respondents also felt that they received more detailed medication counseling from their physicians in hospitals. Due to the sociocultural aspects of ED, exceptions to SPD should be applied to ED patients.

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Continued.

Effects of medication for erectile dysfunction

Q8-1] Are you satisfied with the effects of medication for erectile dysfunction?

- 1) Yes
- 2) No Proceed to Q8-2

Q8-2] Is there any inconvenience with respect to the effects of medication?

- A) Insufficient rigidity
Yes () No ()
 - B) Insufficient period of time when erection is sustained
Yes () No ()
 - C) Side effects (headache, hot flushes, etc.)
Yes () No ()
 - D) Difficulty in hiding the use of medication for erectile dysfunction from your sexual partner
Yes () No ()
 - E) Others: Please specify ()
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Regarding the separation of prescribing and dispensing (SPD) of medications

Q9] Where do you want to obtain medication for erectile dysfunction?

- 1) At the pharmacy (as present)
 - 2) In my physician's office
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