

《 Original Article 》

**Survey on sharing information about health products/medicines
between obstetricians and pregnant/postpartum women toward supporting
pregnant/postpartum women by family pharmacy/pharmacist**

Akito Ikeshita^{1,2}, Atsunobu Sagara^{1*}, Takuya Azechi³, Ayako Maeda-Minami⁴,
Kayoko Sato¹, Masayoshi Koinuma⁵, Hidenori Kominato^{1,2}, Kazuhiro Torigoe¹,
Motohiko Sano¹, Masako Horiuchi¹, Fumiaki Sato¹, and Tetsuro Yumoto¹

The Ministry of Health, Labour and Welfare proposed the active use of family pharmacies/pharmacists, citing the importance of centralized management and continuous monitoring of medicines, sufficient explanation by medical professionals, and information sharing with obstetricians, for pregnant/postpartum women to use medicines information with peace of mind. It was also reported that approximately 60% of pregnant/postpartum women who visited a department other than obstetrician did not share information with their obstetricians, however, the specific actual status of information sharing on health products and medicines was unclear. Therefore, this study conducted an internet survey of primipara/multipara to clarify the actual status of information sharing with obstetricians among primipara and multipara, and examined how to promote support for pregnant/postpartum women by family pharmacies /pharmacists based on the findings obtained. The results showed that information sharing was inadequate in all categories when considering the safety of health products and medicines for pregnant/postpartum women. Within categories, sharing was lower for health products and over-the-counter (OTC) medicines than prescription medicines. Additionally, pregnant/postpartum women generally had a higher wish of sharing information for prescription drugs, and primipara had a significantly stronger wish for health products and OTC medicine than multipara. Based on the above findings, we examined the ideal form of maternal support by family pharmacies/pharmacists, including information sharing between pregnant/postpartum women and obstetricians, and concluded that the use of health support pharmacies is essential. As a consultation service for women at each stage of their lives, we considered that health support pharmacies would be possible to provide ongoing support for the use of health products and OTC medicines from before pregnancy, awareness-raising on safety management in marriage and childbirth, respond when medical care is needed, and information sharing with medical professionals including obstetricians based on centralized management of drug histories.

Key words; Sharing information, Pregnant/postpartum women, Family pharmacy/pharmacist, health products/medicines

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¹ Hoshi University; 2-4-41 Ebara, Shinagawa-ku, Tokyo 142-8501 Japan

² I&H Co., Ltd.; 1-18 Oomasuchou, Ashiya, Hyogo 659-0066 Japan

³ Department of Pharmacy, Juntendo University Hospital, 3-1-3 Hongo, Bunkyo-ku, Tokyo, 113-8431 Japan

⁴ Faculty of Pharmaceutical Sciences, Tokyo University of Science, 2641 Yamazaki, Noda, Chiba 278-8510 Japan

⁵ Faculty of Pharmaceutical Sciences, Teikyo Heisei University, 4-21-2 Nakano, Nakano-ku, Tokyo, 164-8530 Japan

*Corresponding author: Atsunobu Sagara, Hoshi University; 2-4-41 Ebara, Shinagawa-ku, Tokyo 142-8501, JAPAN

Phone : +81-3-5498-6233 Fax : +81-3-5498-6233 E-mail : a-sagara@hoshi.ac.jp

1. Introduction

The “Review Meeting of Ideal Health and Medical System for Pregnant/Postpartum Women” (hereafter referred to as the “review meeting”) by The Ministry of Health, Labour and Welfare has held several discussions on medical professionals supporting pregnant/postpartum women in building the family health and medical care system essential to give birth and raise children safely ¹⁾. The review meeting also proposed the active use of family pharmacies/pharmacists, citing the significance of centralized management and continuous monitoring of medicines, sufficient explanation by medical professionals, and information sharing with obstetricians for pregnant/postpartum women to use medicines information with peace of mind ¹⁾. Under these circumstances, the functions and professions of family pharmacies/pharmacists in supporting pregnant/postpartum women have been presented in many areas in addition to the recommendations made by the study group ^{2, 3)}, and some areas have reported outlines as model projects ^{4, 5)}. However, as a practical matter, it is believed that these functions and job functions have not been fully implemented and standardized. Based on these backgrounds, the authors considered that the primary functions/professions of pharmacies /pharmacists required to support pregnant /postpartum women are interpersonal services based on the family practice function. It is important to clarify issues and needs from the subjective and psychological aspects of pregnant/postpartum women, in other words, in constructing and proposing new measures to support pregnant /postpartum women.

We have focused on the psychological safety of medical professionals, and identified the ease of psychological access to pharmacists, specifically, the psychological ease of communication when feeling anxious about using health products and medicines, and the actual self-reporting of their pregnant/postpartum status to pharmacists ⁶⁾. The results of these studies have provided essential critical findings in the previously mentioned interpersonal services for pregnant/postpartum women, including the centralized management and continuous understanding of medicines and the practice of adequate explanations by medical professionals. Conversely, the review meeting reported that about 60% of pregnant/postpartum women who visited a department other than obstetrician did not share information with their obstetricians ¹⁾. Essentially, maintaining a centralized medication history for the safety management of pregnant/postpartum women ²⁾, the family pharmacy/pharmacist is responsible for sharing information on health products and medicines in use with the obstetrician in real-time, utilizing resources such as the medication handbook and tracing reports. Therefore, it was considered important to grasp the actual situation in detail when sharing information with obstetricians. However, the survey of review meeting was limited ¹⁾, and the specific actual status of information sharing on health products and medicines between obstetricians and pregnant/postpartum women was unclear. In addition, in light of previous reports that primipara and multipara have different anxiety and awareness about medication ⁷⁾, it was considered to important to understand the actual status of information sharing between primipara and multipara.

Therefore, this study conducted an internet survey on primipara/multipara to clarify the actual status of information sharing with obstetricians among primipara/multipara, and examined how to promote the support for pregnant/postpartum women by family pharmacies/pharmacists based on the findings obtained.

2. Methods

1. Survey targets and items

From February 25–26, 2020 (two days), we obtained responses from 1,030 (primipara: 721, multipara: 309) registered survey participants (Macromill, Inc., Tokyo, Japan) in their teens to 40s nationwide who were in their eighth month of pregnancy or had given birth less than one year before the survey. As a definition of the term, primipara was defined as a woman after the eighth month of her first pregnancy or less than one year after the birth of her first child, and multipara were

defined as a woman after the eighth month of their second or subsequent pregnancies or less than one year after the birth of her second or subsequent child. Since this survey was limited to the above-mentioned subjects, those who have not experienced pregnancy or childbirth were not included in this survey. The monitors are randomly registered through an open recruitment process, and the total number of monitors is ~1.28 million as of February 2020. Table 1 details the items in the survey sent to pregnant/postpartum women. The women responded about their current or most recent pregnancies.

2. Analysis methods

After completing the survey, we received all the results from Macromill, Inc. and performed a simple tabulation. The chi-square test was used to examine the differences between primipara and multipara regarding health products, over-the-counter (OTC)

Table 1 List of survey items

	Question content	Item list	Options list
Question A	Please select the status of information sharing between you and the obstetrician regarding the use of health products and medicines that you had not previously used prior to the pregnancy, for the first time since learning that you were pregnant.	A) Health products	1) Information was shared. 2) Information was not shared. 3) No suggestions or prescriptions were made by anyone other than obstetrician.
		B) Over-the-counter medicines for internal use	
		C) Over-the-counter medicines for external use	
		D) Prescription medicines for internal use	
		E) Prescription medicines for external use	
Question B	Do you wish the information in Question A was shared between you and your obstetrician?	A) Health products	1) Wish to share information. 2) Do not wish to share information.
		B) Over-the-counter medicines for internal use	
		C) Over-the-counter medicines for external use	
		D) Prescription medicines for internal use	
		E) Prescription medicines for external use	

medicines (internal use and external use), and prescription medicines (internal use and external use). The analyses were focused on the “actual situation of information sharing with obstetrician” and “wishes regarding information sharing with obstetrician” among pregnant/postpartum women who received prescriptions or suggestions from a nonobstetrician. The percentages for each item were as follows: the denominator was the pregnant/postpartum women who received prescriptions or suggestions from a nonobstetrician, and the numerator was the pregnant/postpartum women who shared information or wished for information sharing. The significance level was set at $p < 0.05$, and JMP14 (SAS Institute, CA) was used for statistical analysis.

3. Ethical considerations

The study was conducted following the ethical guidelines for human-based medical research. It was approved by the Institutional Review Board of Hoshi University (2019-13) and the Institutional Review Board of HANSHIN Dispensing Pharmacy (19009S). The survey response indicated consent to participate in the study.

3. Results

The actual status of information sharing between pregnant/postpartum women and obstetricians regarding health products and medicines suggested and prescribed by nonobstetricians was investigated. The analysis was conducted on the responses obtained from 1,030 eligible pregnant/postpartum women (Valid response rate: 100%). The results of a survey on information sharing with obstetricians among pregnant/postpartum women who had first

used health products or medications after the diagnosis of pregnancy were as follows: health products (55.1%: 206/374 subjects), OTC medicines (57.3%: 379/662 subjects), and prescription medicines (72.1%: 637/883 subjects) (Figure 1A). The results showed that primipara shared information with their obstetricians significantly more than multipara in all categories (health products: primipara 59.7% (169/283 subjects) vs. multipara 40.7% (37/91 subjects), $p = 0.002$, Figure 1B; OTC medicines: primipara 60.4% (285/472 subjects) vs. multipara 49.5% (94/190 subjects), $p = 0.01$, Figure 1C; prescription medicines: primipara 74.4% (458/616 subjects) vs. multipara 67.0% (179/267 subjects), $p = 0.03$, Figure 1D).

Additionally, we surveyed the wishes of information sharing between pregnant/postpartum women and obstetricians in the same setting as the above regarding the actual status of sharing information. The results were as follows: health products (76.2%: 285/374 subjects), OTC medicines (82.6%: 547/662 subjects), and prescription medicines (91.5%: 808/883 subjects) (Figure 2A). The results also showed that primipara and multipara wished for information sharing with their obstetricians. However, primipara shared significantly more than multipara with obstetricians regarding health products and OTC medicines (health products: primipara 79.2% (224/283 subjects) vs. multipara 67.0% (61/91 subjects), $p = 0.02$, Figure 2B; OTC medicines: primipara 84.7% (400/472 subjects) vs. multipara 77.4% (147/190 subjects), $p = 0.02$, Figure 2C; prescription medicines: primipara 91.9% (566/616 subjects) vs. multipara 90.6% (242/267 subjects), $p = 0.541$, Figure 2D).

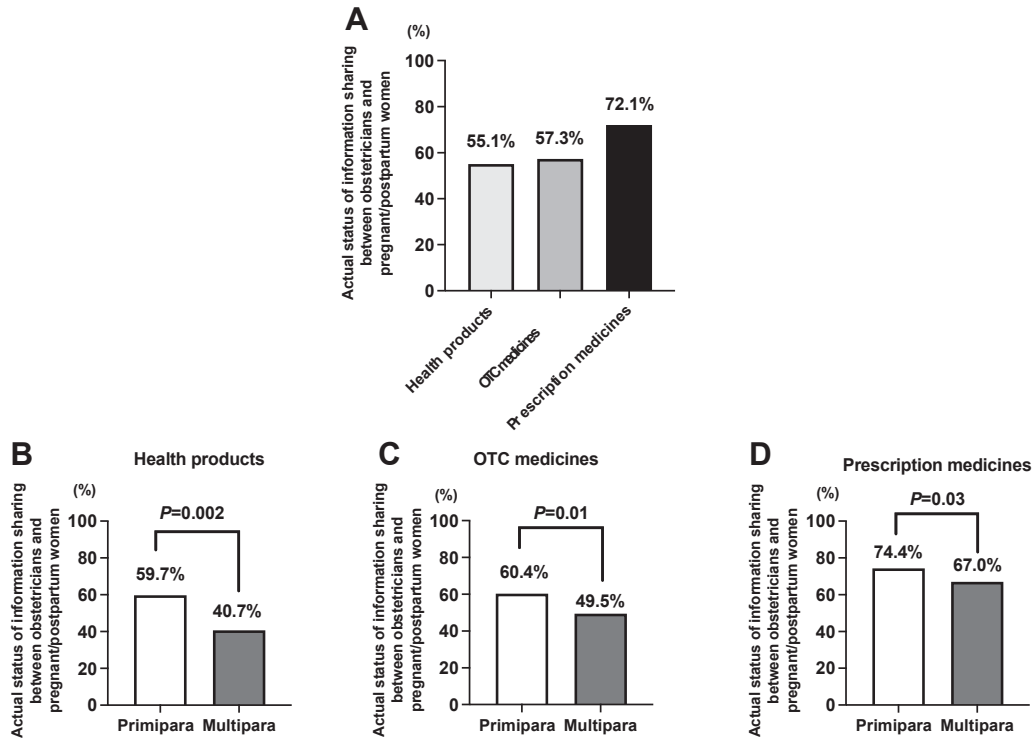


Figure 1: Actual status of information sharing

Actual status of information sharing between obstetricians and pregnant/postpartum women regarding health products, OTC medicines, and prescription medicines (A), in detail, between obstetrician and primipara/multipara regarding health products (B), OTC medicines (C), and prescription medicines (D).

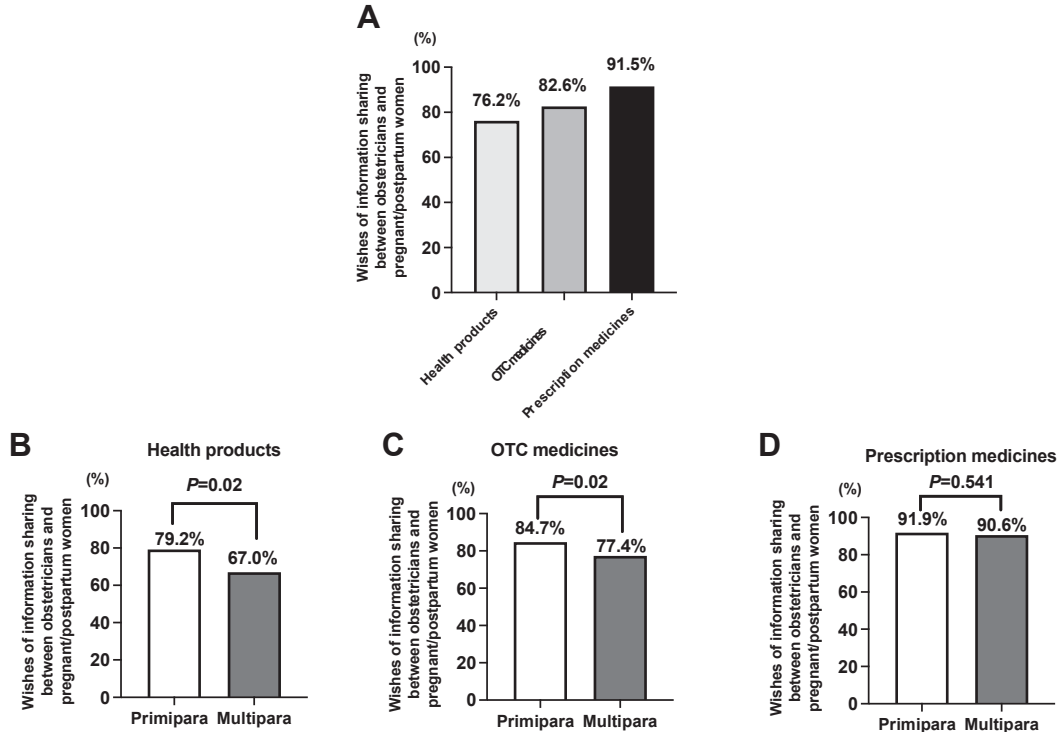


Figure 2: Wishes of information sharing

Wishes of information sharing between obstetricians and pregnant/postpartum women regarding health products, OTC medicines, and prescription medicines (A), in detail, between obstetrician and primipara/multipara regarding health products (B), OTC medicines (C), and prescription medicines (D).

4. Discussion

This study surveyed the actual status of information sharing between pregnant/postpartum women and obstetricians, especially in the categories of health products, OTC drugs, and ethical drugs (three categories), in response to the requirement for safe and secure support by medical professionals. The results showed that information sharing was inadequate in all three categories when considering the safety of each item for pregnant/postpartum women. Within categories, sharing was lower for health products and OTC medicines than prescription medicines.

First, we analyzed the reasons for sharing less with obstetricians about health products and OTC medicines among pregnant/postpartum women. In a previous study, several pregnant/postpartum women thought that health products and OTC medicines were safe to use⁸⁾, and because they are available from nonpharmacy sources⁹⁾, the pregnant/postpartum women used these items at their discretion, and they did not share this information with obstetricians, which was thought to be a possible reason. The National Institute of Biomedical Innovation, Health and Nutrition¹⁰⁾, and Japan Self-Medication Industry⁹⁾ cautions pregnant/postpartum women to consult with pharmacists and to refrain from using health products and OTC medicines on their judgment. Therefore, it was strongly suggested raising awareness among pregnant/postpartum women in general. Additionally, to further explore the reasons for less information sharing between pregnant/postpartum women and obstetricians, we examined the sharing status of each item with a focus on

primipara and multipara, and found that primipara significantly shared all items with their obstetricians. In cases of multipara, it has been reported that they are less anxious about taking medication and less concerned about the adverse effects of health products compared to primipara⁷⁾, which was considered a possible reason for the difference.

Next, we investigated pregnant/postpartum women on their wishes to share information with obstetricians and found that pregnant/postpartum women in general had a higher wish for prescription drugs, and primipara had an even stronger wish for health products and OTC medicine than multipara. Pregnant/postpartum women are generally concerned about the higher safety risks of prescription medicines compared to health products and OTC medicines⁸⁾. It was also thought that primipara was more willing to share information with obstetricians about health products and OTC medicines than multipara, since primipara has more than a little emotional burden about the effects on mother and child due to using health products and OTC medicines from their first childbirth experience⁷⁾.

Based on the above findings, we examined the ideal form of maternal support by family pharmacies/pharmacists, including information sharing between pregnant/postpartum women and obstetricians. We concluded that the use of health support pharmacies is essential. Health support pharmacies are institutionalized as pharmacies that meet specific standards set by the Ministry of Health, Labour and Welfare, and they can provide various health consultations on health products and OTC medicines¹¹⁾. Therefore, as a consultation service for women at each stage of their lives, we considered that health support pharmacies would be

possible to provide ongoing support for the use of health products and OTC medicines from before pregnancy, awareness-raising on safety management in marriage and childbirth, respond when medical care is needed, and share information with medical personnel including obstetricians, based on centralized management of drug histories. In particular, we believed that promoting ongoing support and awareness of preconception care¹²⁾ by pharmacists at community-based health support pharmacies could be help to realize an optimal support system for pregnant/postpartum women.

One limitation of this study is that it primarily intended to identify trends in Japan, so detailed examinations by region,-age group, medical history, and family structure were not possible. Additionally, since this study was conducted on pregnant /postpartum women, it is unclear to what extent pharmacists could share the information with obstetricians, which needs to be clarified in future studies.

Conflict of Interest

The authors declare no conflicts of interest associated with this manuscript.

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