

Physicians' Perceptions Toward Drug Use During Pregnancy and Limitations of Package Insert Information in Japan

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Background

In Japan, drug labeling often relies on animal data, and many drugs remain contraindicated in pregnancy despite new safety evidence. Package inserts strongly influence physicians' prescribing.

Objectives

To investigate physicians' decision-making when prescribing to pregnant women, compare specialists and generalists, and examine how pregnancy labeling contributes to differences in prescribing.

Methods

Conducted an online questionnaire survey targeting two groups:

- Specialized physicians at **hub hospitals*** of the **Japan Drug Information Institute in Pregnancy** (n=78).
- General physicians from various hospitals nationwide** (n=400).

* Hub hospitals = JDIIP member hospitals with clinicians trained in pregnancy–medication safety who can read epidemiological research.

Statistical analysis included chi-square tests and Fisher's exact test (significance: $p < 0.05$).

Results

Table 1. Characteristics of physicians who participated in the questionnaire survey

		General hospitals (n=400)	%	Hub hospitals (n=78)	%
Career as physician	Junior residents	3	0.8	0	0
	Senior residents	7	1.8	1	1.3
	5-9 years	11	2.8	9	11.5
	10-19 years	70	17.5	33	42.3
	20-29 years	114	28.5	26	33.3
	30 years and over	195	48.8	9	11.5
Work sites	Staff physicians	348	87.0	78	100
	General practitioners	46	11.5	0	0
	Other	6	1.5	0	0
Medication prescription experience for pregnant individuals	Yes	330	82.5	78	100
	No	70	17.5	0	0

Specialties:

In general hospitals, major specialties included internal medicine (36.5%), surgery (10.0%), and orthopedics (7.0%). In hub hospitals, 91% of physicians specialized in gynecology and obstetrics, with only 3.8% each in internal medicine and pediatrics.

Table 2

Tell us your impression on drug safety when a package insert (electronic package insert) states

"The drug must be administered only when the benefits outweigh risks (that is, beneficial administration)".

	General hospital	%	Hub hospital	%	p
It is safe.	21	5.25	12	15.4	<0.05
It is mostly safe.	191	47.75	51	65.4	
Neither	128	32	12	15.4	
It is somewhat high-risk.	52	13	3	3.8	
It is high-risk.	8	2	0	0	
Total	400	100	78	100	

When the package insert states that a drug should be used only when the benefits outweigh the risks, 80.8% of physicians in hub hospitals perceived the drug as "safe" or "mostly safe," compared to 53.0% in general hospitals ($p < 0.05$).

Table 3

How do you deal with pregnant patients requiring medicines for which the package insert states

"The drug must be administered only when the benefits outweigh risks (that is, beneficial administration)"?

	General hospital	%	Hub hospital	%	OR (95%CI)
I will administer the drug.	59	14.75	42	53.8	0.045 (0.015-0.13)
I will make a decision based on the needs.	153	38.25	33	42.3	
I will avoid administration as much as possible.	160	40	3	3.8	
I will not administer the drug.	28	7	0	0	
Total	400	100	78	99.9	

In response to the same package insert statement, 53.8% of hub hospital physicians stated they would administer the drug, while only 14.8% of general hospital physicians responded the same (OR: 0.045, 95% CI: 0.015–0.13).

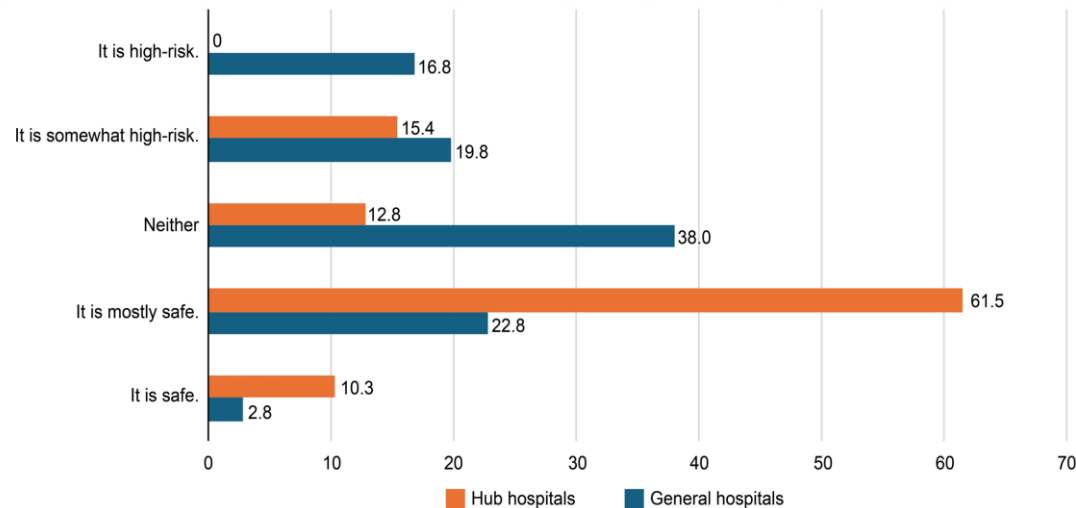


Figure 1. Physicians' perceived safety of medications contraindicated in preclinical animal studies but shown safe in epidemiological data, by hospital type

When a drug is contraindicated in pregnancy based on animal studies but epidemiological data suggest no risk, 71.8% of hub-hospital physicians considered it "safe" or "mostly safe," compared with 25.6% of general-hospital physicians. In contrast, 36.6% of general-hospital physicians rated it "somewhat" or "high-risk," while none of the hub-hospital physicians rated it "high-risk."

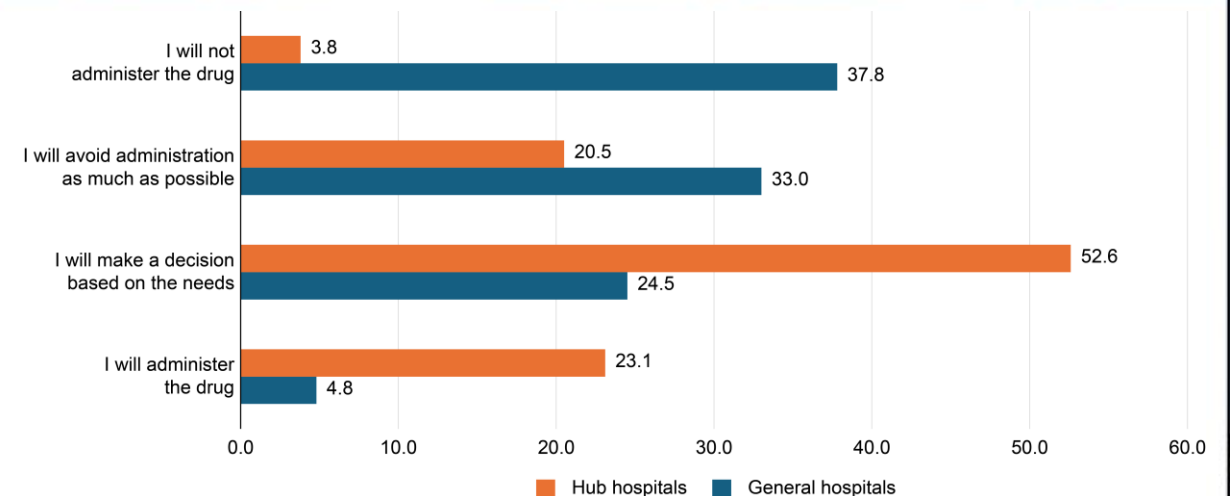


Figure 2. Physicians' likelihood of prescribing these medications to pregnant patients requiring treatment, by hospital type

When treating pregnant patients with drugs contraindicated based on animal studies but considered low-risk in epidemiological research, 75.7% of hub-hospital physicians chose to "administer" or "decide based on necessity," compared with 29.3% of general-hospital physicians. In contrast, 70.8% of general-hospital physicians opted to "avoid" or "not administer," versus 24.3% in hub hospitals.

Discussion

Specialized training and access to up-to-date epidemiological evidence strongly influence prescribing. Revising Japanese pregnancy labeling to include robust human safety data and clear therapeutic benefits, along with enhanced physician education and standardized labeling, could reduce practice variation.

Conclusions

Current Japanese pregnancy labeling inadequately supports evidence-based decision-making. Comprehensive epidemiological data and therapeutic benefit information should be included.