



## Difficulties in delivering nursing care to foreign patients among Japanese nurses and their attributes: text mining approach

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### Introduction:

It is crucial to provide nursing care by considering clients' diversity, especially for nurses in Japan, due to the drastically increasing number of foreigners in Japan, and when preparing for the Olympic games in 2020.

### Objectives:

The purpose of this study was to explore the difficulties of Japanese nurses in delivering nursing care to foreign patients and the relationship of these difficulties with their attributes.

### Methods:

The research design was descriptive and used a questionnaire survey. Subjects were registered nurses from 19 hospitals in Japan. The questionnaire included a question about difficulties in delivering nursing care to foreign patients as a free description. The concepts of difficulties extracted from these free descriptions by using a text mining software, SPSS Text Analytics for Surveys 14.0 Japanese version. Data were collected from September to December in 2015.

### Results:

#### SUBJECTS (Fig. 1)

The number of targeted respondents for the survey was 9,140. Of these, 7,494 (82.0%) were valid responses with 6,844 (91.3%) of them being female. The mean age was 32.6 (SD=9.4) years, and the majority position was staff nurse (86.9%).

#### CONCEPTS OF DIFFICULTIES (Tab. 1)

The major 50 concepts of difficulties extracted from 4,653 (62.1%) respondents' descriptions using text mining approach include: "communication," "explanation," and "culture."

#### NUMBER OF DIFFICULTIES

The range of number of concepts of difficulties of individual respondents described was from 0, which included respondents who described nothing, to 14, and the mode was 2 (18.9%) except 0 (37.9%) (Fig. 2) Regarding the median number of concepts, female respondents showed 2.00, which is higher than that of males ( $p=.000$ ) (Fig. 3), administration nurses showed the lowest 2.00 ( $p=.000$ ) (Fig. 4) and the respondents who lived abroad most of their life showed 6.00 ( $p=.000$ ). (Fig. 5)

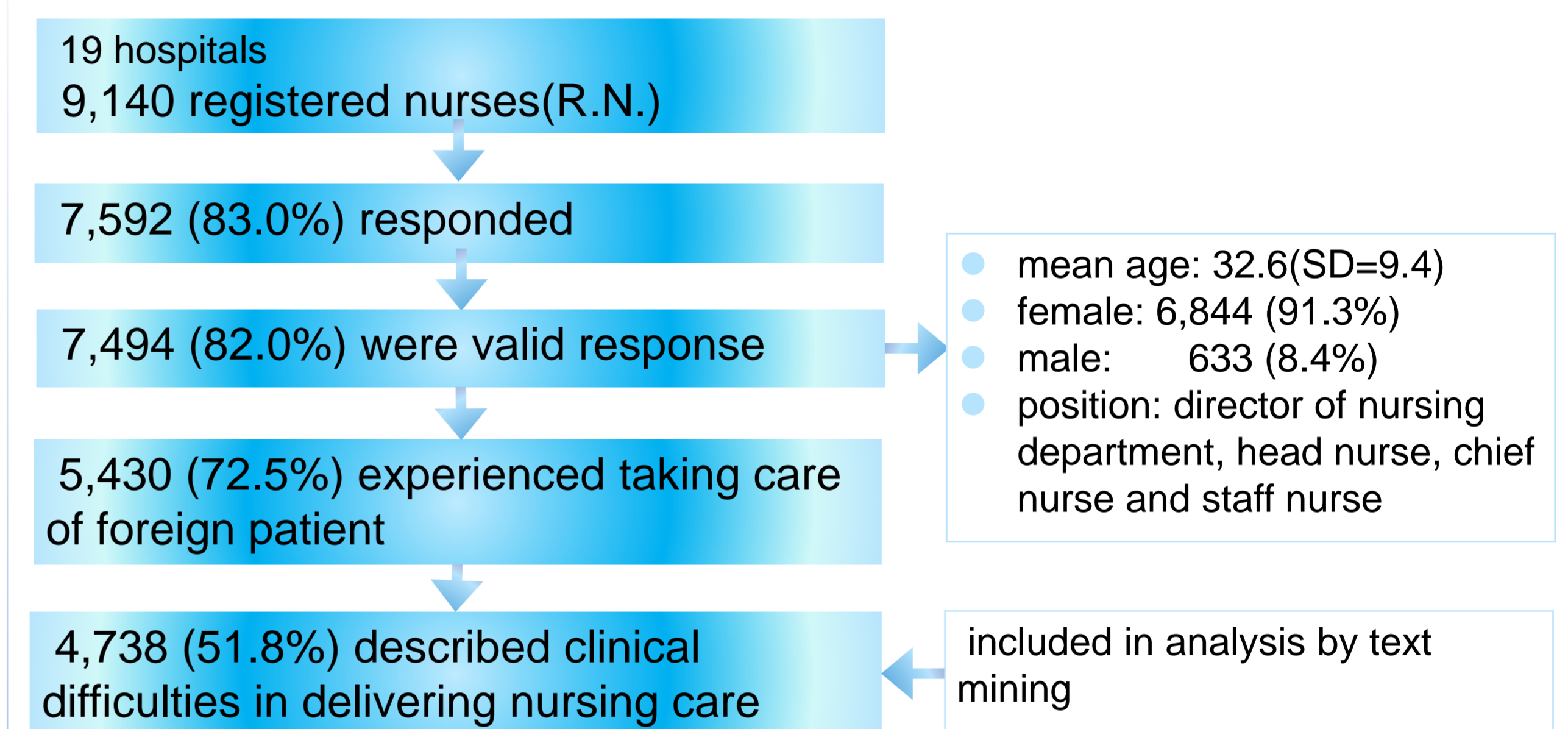


Fig. 1 respondents

Table 1 top 50 concepts as difficulties, its number of respondents and percentage (\*multiple response)

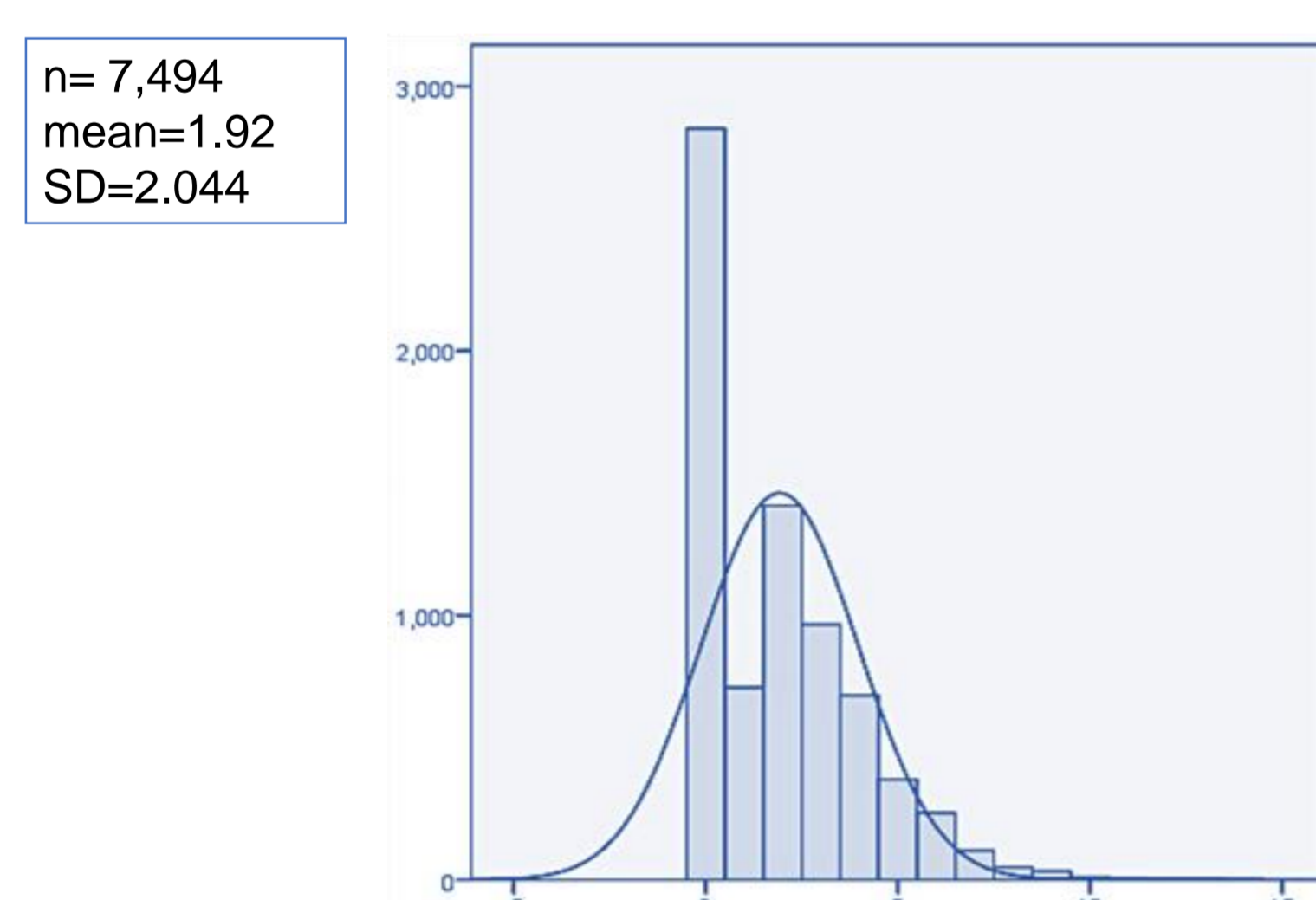


Fig. 2

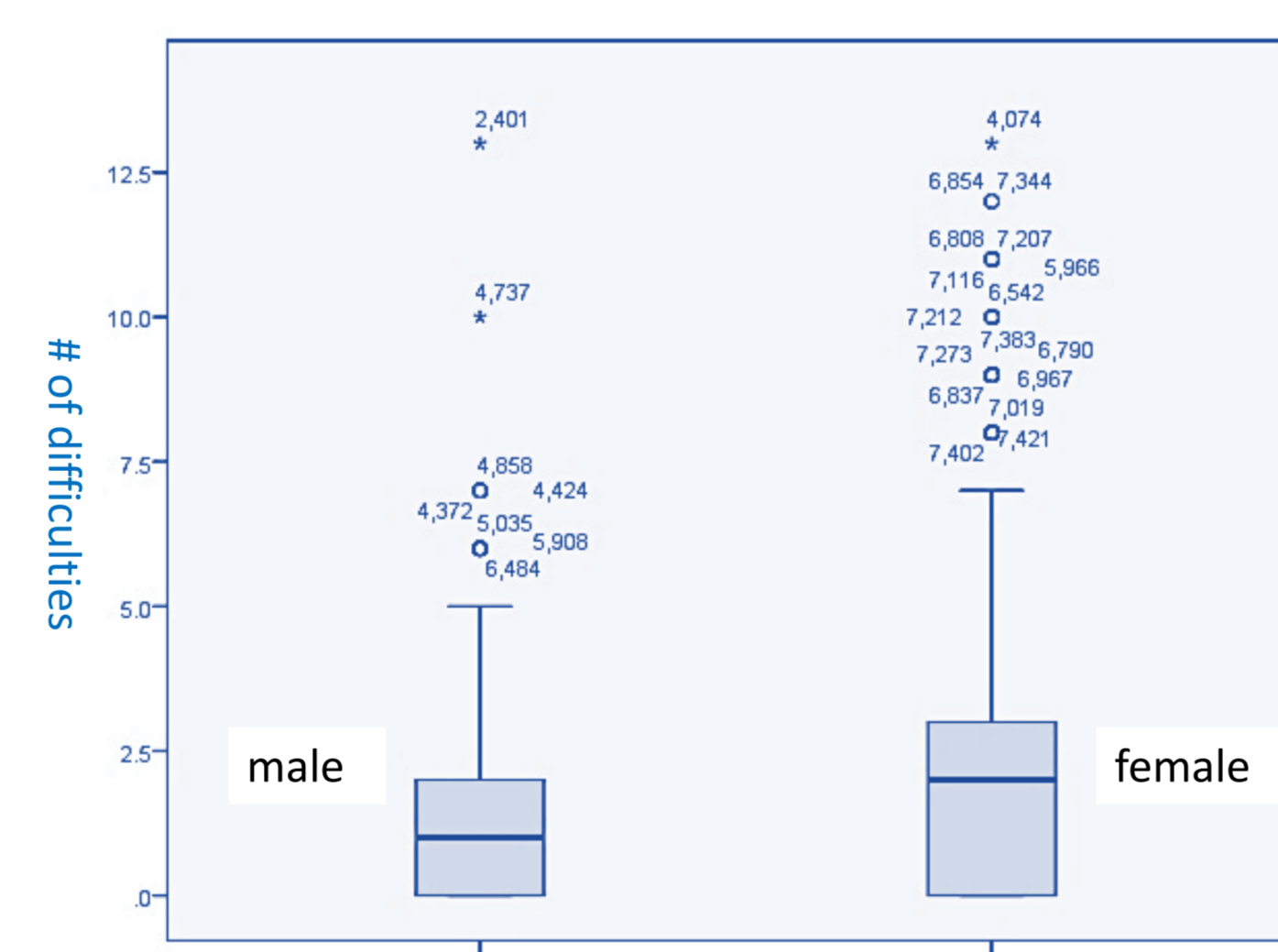


Fig. 3

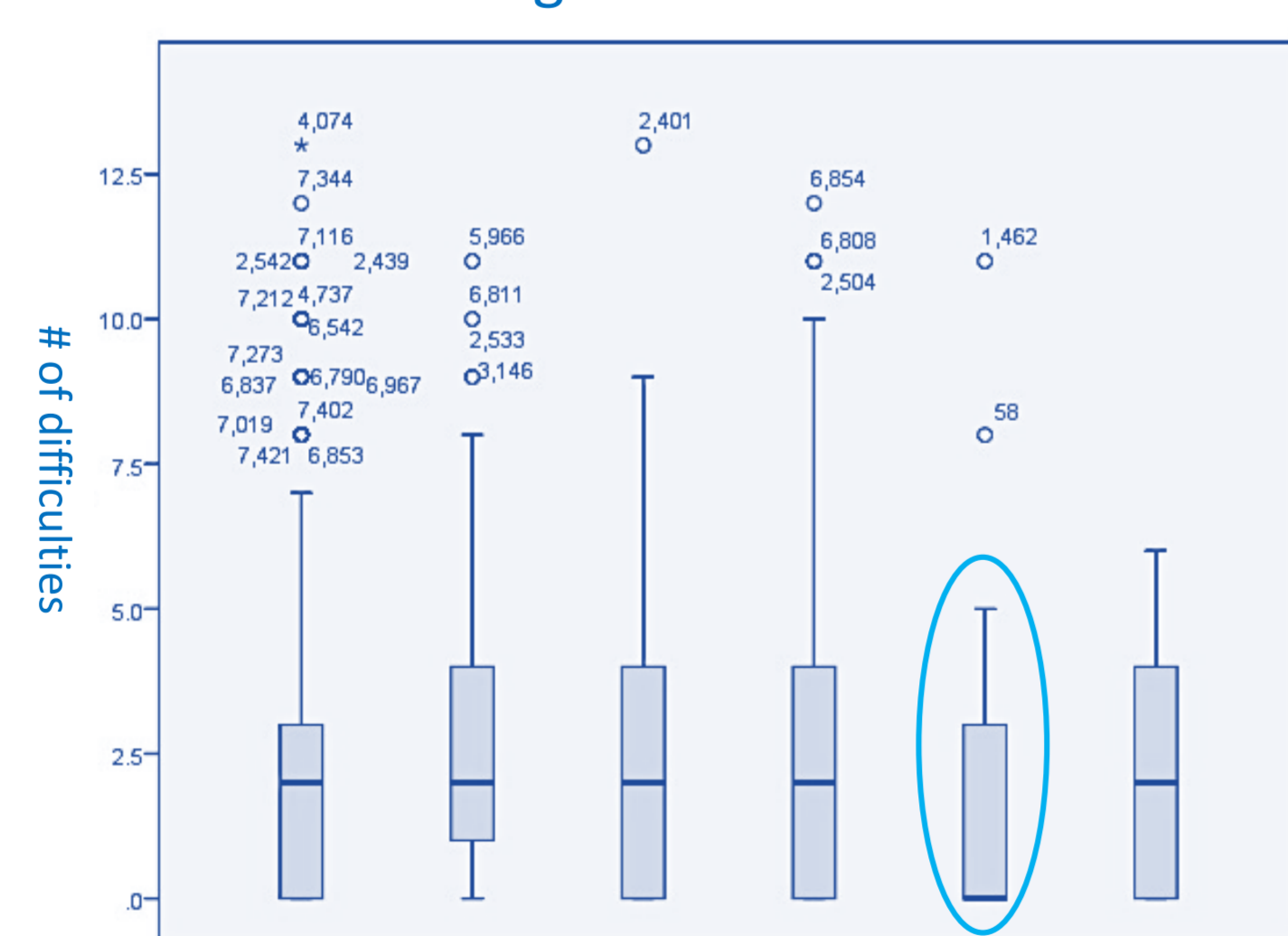


Fig. 4

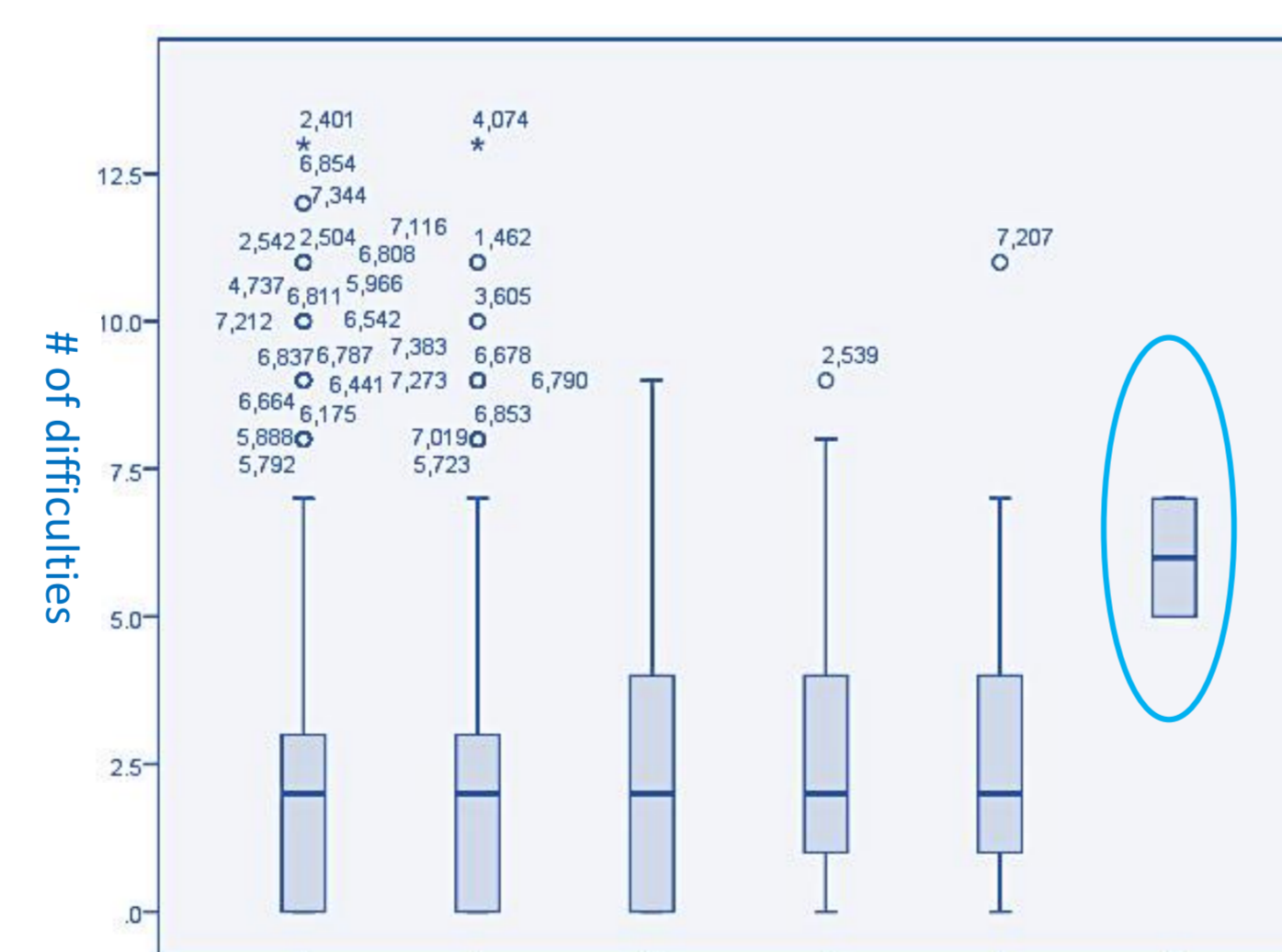


Fig. 5

#	category	n	%	#	category	n	%
1	communication	2736	57.7	26	pain	113	2.4
2	language	2669	56.3	27	listening	113	2.4
3	incomprehensible language each other	1842	38.9	28	barrier	102	2.3
4	English language	639	13.5	29	insufficiency	102	2.2
5	Japanese language	577	12.2	30	medical examination	84	1.8
6	difference	465	9.8	31	surgical operation	77	1.6
7	explanation	438	9.2	32	recognition	77	1.6
8	understanding	353	7.5	33	medical treatment	76	1.6
9	culture	334	7.0	34	point of view	75	1.6
10	gesture	327	6.9	35	guidance and education	74	1.6
11	medical and nursing terminology	249	5.3	36	confirmation	72	1.5
12	interpreter	245	5.2	37	inaccuracy	54	1.1
13	symptom	224	4.7	38	physician	51	1.1
14	patient's complain	183	3.9	39	information	47	1.0
15	food and diet	178	3.8	40	smell	43	0.9
16	family	169	3.6	41	asking	39	0.8
17	foreigner	160	3.4	42	special request	37	0.8
18	life style and habit	156	3.3	43	observation	36	0.8
19	treatment and response	154	3.3	44	kanji or Chinese character	33	0.7
20	nervous	153	3.2	45	creativity	33	0.7
21	religion	147	3.1	46	order	31	0.7
22	nursing care	141	3.0	47	health care	30	0.6
23	time	118	2.5	48	rule	29	0.6
24	nuance	117	2.5	49	value	26	0.5
25	patient's feeling	117	2.5	50	self advocacy	24	0.5

### Conclusion:

- Language is a great barrier for Japanese nurses in delivering nursing care to foreign patients, also cultural factors effected delivering nursing care and cause "inaccuracy" and "insufficiency" as hazards of clinical safety.
- Linguistic and cultural interpreting resources are needed for clinical safety for both of nurses and foreign patients.
- Number of difficulties in delivering nursing care to foreign people had a relationship with nurses' attributes such as sex, position, and experience of living abroad.

### Keywords:

culturally competent care, cultural competency, diversity