

# DEVELOPMENT OF A DRUG INFORMATION SHEET FOR PATIENTS TO PROMOTE APPROPRIATE USE

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## Background

We developed a drug information (DI) sheet for patients to promote appropriate use and self-medication, but the level of understanding was not satisfactory. One reason for the poor comprehension was that important information was buried in sentences.

## Purpose

To improve the visual appeal and patient comprehension of DI sheets by inserting pictograms

## Methods

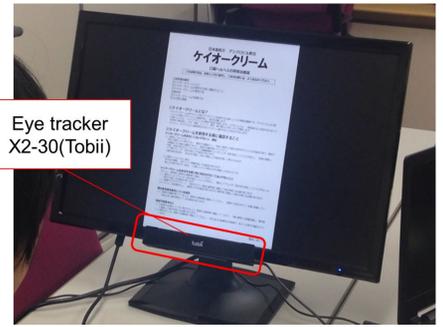
### Pictograms



### Items of Questions

○ Item inserted pictograms

1. Medical history of allergy (Contraindication)
2. Long term use
3. Concomitant use of drug (Contraindication)
4. Indications
5. Use of elderly people
6. Drinking alcohol (Contraindication)
7. Side effect of stomach
8. Dosage and administration
9. Use of pregnant woman
10. Medical history of hypertension (Contraindication)
11. Not applicable indication
12. Serious side effect



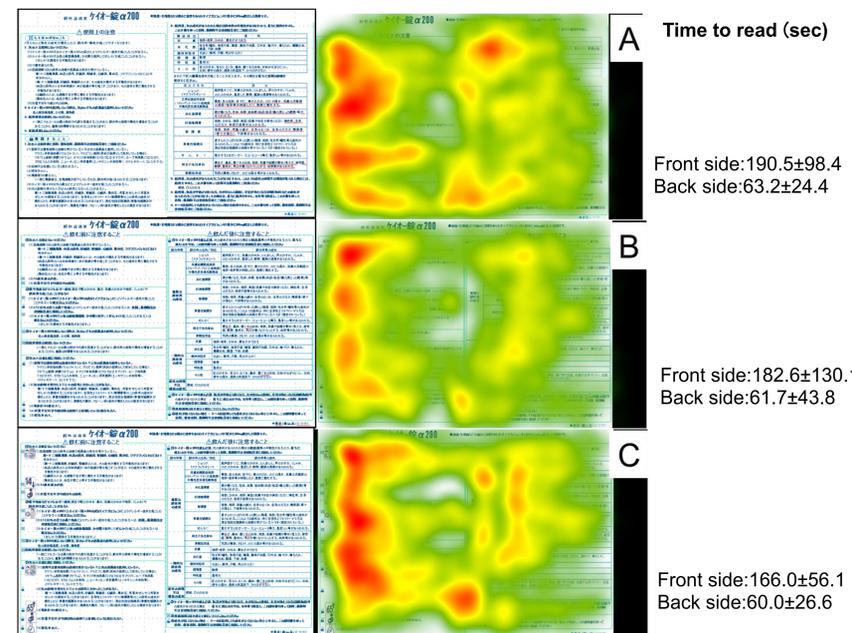
- Three different DI sheets on NSAIDs, sheet A provided by the industry, sheet B originally developed, and sheet C with pictograms inserted in sheet B, were studied.
- The sentences of each sheet were laid out in two columns side by side. Originally designed pictograms for contraindications with underlying diseases, allergy history, inappropriate indication, and concomitant use, and caution for the elderly and pregnant/breastfeeding women were used.
- Comprehension of the DI sheets was assessed in interviews with 12 questions. The time spent searching for answers and eye movements were recorded with an eye tracker.

## Results and Discussions

### 1. Participants

- Thirty-nine healthy adults stratified by age and gender were randomly assigned to group A (11), B (14), or C (14).
- There were no difference among three groups in age, sex, contact lenses use etc

### 2. Time to read through DI sheet without time limit before interview



### 3. Comprehension of DI sheets

Question	Item	No. of participants correctly answered(%)		
		A(N=11)	B(N=14)	C(N=14)
1	Medical history of allergy	10 (90.9)	12 (85.7)	12 (85.8)
2	Long term use	6 (54.5)	6 (42.9)	2 (14.3)
3	Concomitant use of drug	8 (72.7)	12 (85.7)	13 (92.9)
4	Indications	11 (100)	14 (100)	14 (100)
5	Use of elderly people	11 (100)	14 (100)	13 (92.9)
6	Drinking alcohol	11 (100)	14 (100)	14 (100)
7	Side effect of stomach	7 (63.6)	11 (78.6)	10 (71.4)
8	Dosage and administration	11 (100)	14 (100)	13 (92.9)
9	Use of pregnant woman	5 (45.5)	9 (64.3)	8 (57.1)
10	Medical history of hypertension	9 (81.8)	11 (78.6)	12 (85.7)
11	Inappropriate indication	7 (63.6)	8 (57.1)	10 (71.4)
12	Serious side effect	9 (81.8)	13 (92.9)	13 (92.9)
Total		105 (79.5)	138 (82.1)	134 (79.8)

### 4. Search time in groups B and C

Question	Item	Time (mean±SD min)	
		B(N=14)	C(N=14)
1	Medical history of allergy	30.4±30.4	23.3±17.5
2	Long term use	36.4±26.2	24.2±22.9
3	Concomitant use of drug	41.2±38.3	26.4±13.2
4	Indications	20.2±18.5	13.4±7.0
5	Use of elderly people	12.1±7.6	9.9±8.0
6	Drinking alcohol	12.8±9.6	11.1±9.5
7	Side effect of stomach	35.2±25.3	33.8±18.2
8	Dosage and administration	21.6±18.4	20.5±14.1
9	Use of pregnant woman	21.7±22.7	21.0±23.9
10	Medical history of hypertension	17.8±16.2	16.2±11.8
11	Inappropriate indication	36.4±21.0	37.7±30.4
12	Serious side effect	7.8±9.9	9.2±8.0
Total		273.6±212.5	244.6±186.1

- The percentage of correct answers did not differ among groups (A79.5%; B82.1%; C79.8%).
- Pictograms of contraindications with concomitant use and inappropriate indication increased the correct answer rate (by 10–20%) and visual appeal, but improvements by other pictograms were small.
- Ten of 12 questions had decreased search times in group C compared with group B. The average total search time in groups B and C was 273.6 and 244.6 sec, respectively.
- The upper left of the DI sheets received the most visual attention, while text in the lower right tended to be overlooked.

## Conclusion

Pictograms shorten the time required to search for answers and make it easier to locate necessary information on DI sheets. Placing critical information in the upper left must be useful to increase patient comprehension.

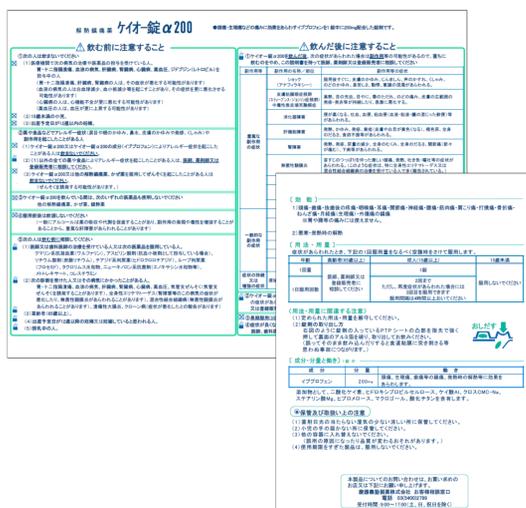
## Acknowledgements

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Sheet A (from Industry)



Sheet B (originally developed)



Sheet C (pictograms inserted)

