



MIN-IREN



# An Evaluation of the Community Pharmacy Efforts to Improve Health Literacy

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## Introduction

Aozora Pharmacy (Blue Sky Pharmacy), located at Nishiyodogawa Ward, Osaka City, Japan, has been active in health promotion as a community pharmacy since its opening in November 1990.

Since August 2007, Aozora Pharmacy held a learning class on drugs and health information twice a year in order to improve Health Literacy among patients and community people. So far, 22 classes were held on various themes, and in total, 535 people have participated by March 2018 (Table 1). This effort has been in practice for a decade, and a research was conducted to examine the effectiveness and outcome of participating to the class from the aspect of individual awareness of health and behavioral change.

## Methods

In November 2017, a survey was held by mailing questionnaire to the 209 participants (male: 72, female: 137) whose address were known out of all participants of the previously held learning classes. The responses were collected by mail for the following survey items: 1) Gender, 2) Age, 3) If they have a main pharmacy, 4) Employment status, 5) Number of participation to the learning class, 6) If anything has changed regarding their awareness and behavior on health and drugs after participation, 7) If "Yes" to behavioral change, explain how, 8) If "No" to behavioral change, explain how.

## Results

The responses were obtained from 91 attendants out of 187 mailing, after excluding the 22 returned mails due to death or moving (collection rate: 48.71%).

Gender: male was 26 (28.6%), and female was 65 (71.4%).

Age distribution: the largest group was 70 - 79, accounting for 44.0%.

Main pharmacy: 85 (93.4%) said they have a main pharmacy, be it either Aozora Pharmacy or some others.

Employment status: 76 (83.5%) were unemployed.

Number of participation to the learning class: as shown in Table 2.

On the question "if anything has changed regarding their awareness and behavior on health and drugs after participation to the class", those who experienced changes were 51 (56.0%), and statistics showed it was significantly higher than those 28 (30.8%) who answered as no change (Table 3).

For the relationship between the number of participation to the learning class and behavioral changes, the group with behavioral change and participation of more than three times showed higher statistical significance in share, when compared to the group with one participation (Table 4).

In analysis of a relationship for the group with changes on the number of participation (one to four attendance to the class), a positive correlation was observed as statistically significant (Fig.1).

Table 1

The themes, number of participants, and evaluation of the learning class

No.	Time of class	Themes	Participants	Satisfaction
No. 1	Aug 2007	Story of Drugs	6	4.3
No. 2	Mar 2008	Story of Supplements	9	4.3
No. 3	Aug 2008	Metabolic Syndrome	10	4.9
No. 4	Mar 2009	Over-the-counter (OTC) Drugs	7	4.8
No. 5	Aug 2009	Supplements, Healthy Foods	21	4.1
No. 6	Feb 2010	Side Effects of Drugs	21	4.1
No. 7	Sept 2010	Sleep	24	4.1
No. 8	Feb 2011	Chinese Herbal Medicine	10	4.5
No. 9	Sept 2011	Lung Age	27	4.6
No.10	Mar 2012	Dementia	38	3.7
No.11	Sept 2012	Constipation	16	4.5
No.12	Mar 2013	Poultice Medicine	14	4.7
No.13	Sept 2013	Skin Trouble	26	4.1
No.14	Mar 2014	Pneumonia	21	4.5
No.15	Sept 2014	Story of pee	52	3.9
No.16	Mar 2015	Prevention of Diabetes	37	4.4
No.17	Sept 2015	How to Make a Smart Choice on OTC Drugs	26	4.7
No.18	Mar 2016	Healthy Foods	24	4.4
No.19	Sept 2016	Stories of bone	38	4.5
No.20	Mar 2017	Mix intake of drugs	28	4.4
No.21	Sept 2017	Why bad to have high cholesterol?	31	4.3
No.22	Mar 2018	Tips on diet per disease	49	4.2
			Total	535
				4.3

Satisfaction average on 5 pt evaluation

Table 2 Number of Participation to the Learning Classes

# of Participation	Total (Share)	Male	Female
Once (1)	22 (24.2%)	8	14
Twice (2)	21 (23.1%)	3	13
Three times (3)	11 (12.1%)	3	8
Four times (4)	6 (6.6%)	3	3
5 or more	14 (15.4%)	4	10
10 or more	5 (5.5%)	1	4
Don't remember	12 (13.2%)	4	8
Total	91 (100.0%)	26	65

Table 3 Change in Awareness and Behavior after Participation to the Classes

Awareness	Total	Share (95% CI)	Male	Female
Group with change	51 (14/37)	56.0% (45.2, 66.4)	15	36
Group without change	28 (19/9)	30.8% (21.5, 41.3)	9	19
Neither	11	12.1% (6.2, 20.6)	2	9
No answer	1	1.1%	0	1
Total	91	100.0%	26	65

"Group with change" : (Greatly changed/Roughly changed)  
"Group without change" : (Not much is changed/Change is limited)  
"Group with change" vs "Group without change"

Binominal test  $P = 0.0128$

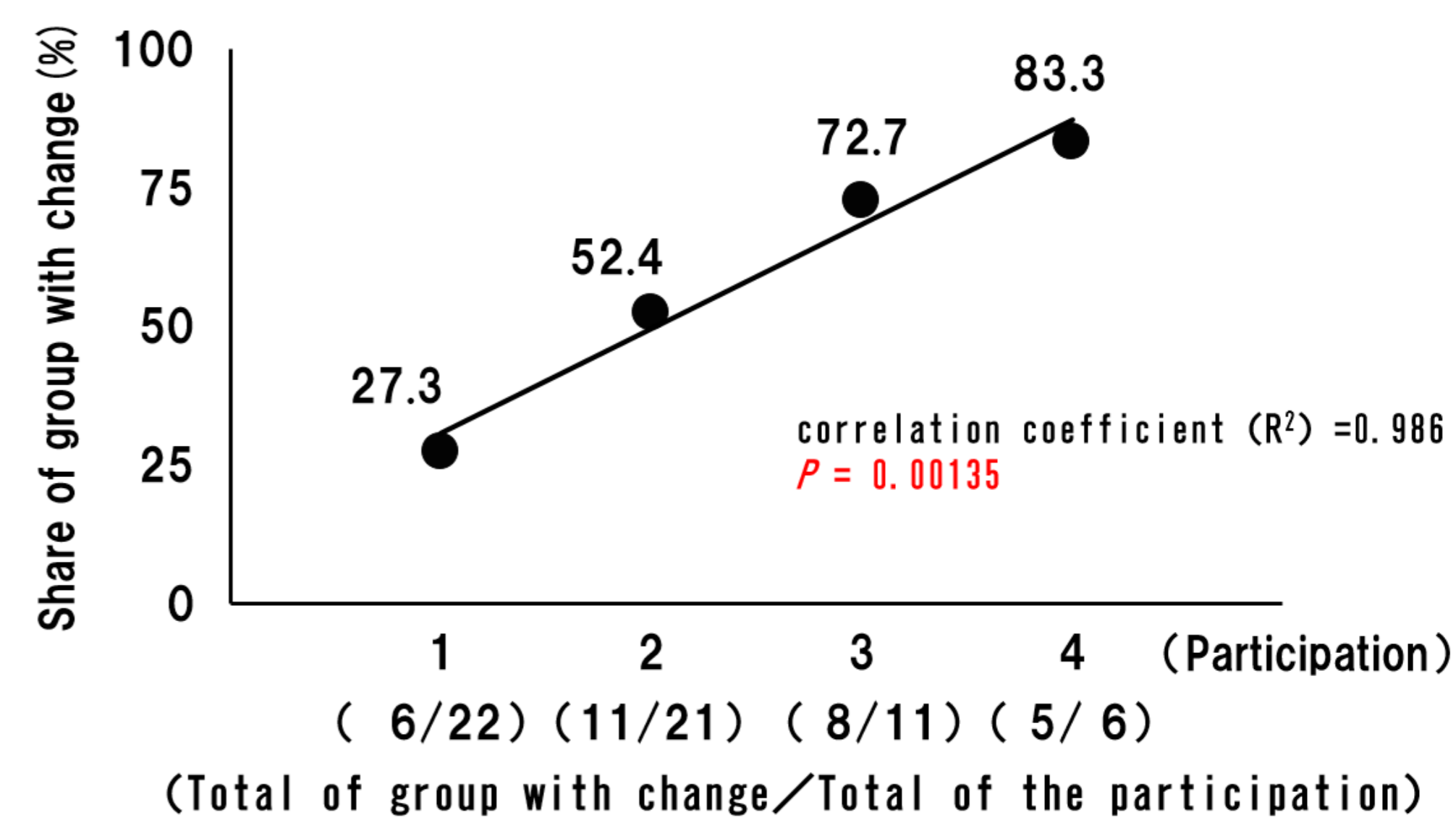
Table 4 Relationship Between the Number of Class Participation and Awareness / Behavioral Changes

Awareness of participants	Number of Participation						
	1	2	3	4	5 or more	10 or more	Unknown
Group with change	6 (1/5)	11 (2/9)	8 (1/7)	5 (2/3)	11 (4/7)	5 (4/1)	4 (0/4)
Group without change	14 (7/7)	6 (6/0)	2 (1/1)	1 (1/0)	3 (2/1)	0 (0/0)	1 (1/0)
Neither	2	4	1	0	0	0	5
No answer	0	0	0	0	0	0	1
Total	22	21	11	6	14	5	11

$\chi^2$  Test

One (1) vs Two (2)  $P = 0.0701$  One (1) vs Three (3)  $P = 0.0351$  One (1) vs Four (4)  $P = 0.0351$   
One (1) vs Five (5) or more  $P = 0.00972$  Once (1) vs Ten (10) or more  $P = 0.0115$

Fig. 1 Correlation between the Number of Class Participation and the Share of Group with Change



## Conclusions

This study proved that the learning class provided by community pharmacy was effective to ensure an improvement of health literacy among patients and community people. Moreover, evidence was found, as there was a correlation with the number of participation. We would like to continue this learning class activity in order to improve health literacy among users of pharmacy and community people, as a role of community pharmacy is not limited to sales of prescribed drugs and OTC drugs but rather to provide health support and enhance health promotion for patients and community people.



The health information learning class in the Aozora pharmacy.