

## Awareness and Motivation of Japanese Donors of Blood for Research

Community-based studies and clinical studies both require a trusting relationship between researchers and participants. Although community studies generally involve less invasive procedures than clinical studies, few reports are available on the actual level of understanding of participants in community-based studies, particularly in studies of noncommunicable diseases.<sup>1-3</sup>

We examined subjects' understanding of a request to donate additional blood, and their motivation for doing so, in a rural community in Japan. For a survey of the lifestyles of the Japanese, 120 residents aged 40 to 69 years were randomly selected in the town of Haga, Hyogo Prefecture. We then asked these subjects to donate 4 mL of blood in addition to the blood (6-8 mL) that is routinely drawn for analysis during checkup examinations. Before the survey was conducted, a counseling session was held in which health professionals—mainly public health nurses—explained both orally and in an informed-consent document that the samples were to be reserved for undesignated research purposes. The subjects were assured that they would experience no disadvantage if they refused and no immediate advantage if they donated the additional blood. The subjects signed the informed-consent form on the examination day at the survey site.

Among the subjects selected, 96 people participated in the survey in August 1991. All except 1 woman donated additional blood. One month after the survey, the subjects were given a self-administered questionnaire that queried their understanding of the research activity and their motivation for cooperating. Of those who responded to the questionnaire (n=84), 92% remembered this blood donation and 87% still approved the donation (Table 1). Seventy-three percent recalled that the purpose was for research, while 61% had donated blood "to get a health checkup" despite the fact that they had neither been promised a

**TABLE 1—Understanding and Motivation of Subjects (n=84) Asked to Donate Additional Blood for Research: Haga, Hyogo Prefecture, Japan, 1991**

| Question   | Yes (%) | No (%)  | Not Sure (%) |
|--|---------|---------|--------------|
| 1. Did you donate additional blood?                                | 77 (92) | 3 (4)   | 4 (5)        |
| 2. Did you consent to donate additional blood?                     | 73 (87) | 3 (4)   | 6 (7)        |
| 3. Did you know that the additional blood was for future research? | 61 (73) | 23 (27) |              |
| 4. Why did you agree to give additional blood? (multiple choice)   |         |         |              |
| To get a health checkup  | 51 (61) |         |              |
| No special reason to refuse  | 47 (56) |         |              |
| Wanted to contribute to advancement of medicine                    | 26 (31) |         |              |
| Felt uneasy refusing   | 3 (4)   |         |              |
| Other  | 2 (2)   |         |              |

Note. Response rate = 88%. There are 2 missing values in the response to question 2.

checkup for participating nor received one. Differences in responses to the questions were rarely related to educational level or sex. Initial cooperation could not have been influenced by expectation of follow-up, since neither the subjects nor the interviewers knew that a follow-up investigation was planned.

Although the Japanese were not accustomed to a procedure of individual signed consent at the time our study was undertaken,<sup>4</sup> the subjects' cooperation was found to be high. However, we also found that the subjects' understanding of the research activity was limited. The reported reasons for donating the additional blood were also inconsistent with the information we provided in the counseling session. Previously reported clinical trials found discrepancies between the subjects' perceptions and the explanations provided.<sup>5-9</sup> As was found in a previous study,<sup>10</sup> the subjects in our study tended to think that pure research was designed to directly benefit them.

A recent study reported that a considerable percentage of people who volunteered for HIV testing felt compelled to do so,<sup>11</sup> illustrating the problem known as "undue influence."<sup>12</sup> This was not a serious problem in the present study because very few respondents (4%) expressed "uneasiness at refusing" as their motive for donating blood.

Community researchers need to be sensitive to subjects' understanding of research activities and balance the subjects' rights, the benefits to the community, and the purpose of the research itself. □

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T. Nakayama planned the study with K. Muto, analyzed the data, and wrote the paper. N. Yoshiike and T. Yokoyama, with T. Nakayama, communicated

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## The Effect of Plain Packaging on Response to Health Warnings

Given that more than three quarters of those who smoke begin smoking before the age of 18 years,<sup>1</sup> reaching adolescents is criti-

cal if smoking rates are to be lowered. Getting them to pay more attention to the health warnings on cigarette packages may be helpful in this regard. Canadian public health officials have argued that plain packaging (i.e., packages with no logos, colors, or text except the brand name) could help achieve this goal.<sup>2</sup> This study was designed to evaluate the effects of plain packaging on calling attention to health warnings.

The study was conducted in a Vancouver, British Columbia, mall with 401 teenagers, aged 14 to 17 years, who indicated that they smoked cigarettes or were open to trying cigarettes within the next year. Subjects were randomly assigned to be exposed to 1 of 3 health warnings drawn from the 8 existing mandated ones: "Smoking can kill you," "Cigarettes are addictive," and "Tobacco smoke causes fatal lung disease in nonsmokers." Half of the members of each group (n = 66 or 67) were randomly assigned to see the warning on the regular package, while the others saw the warning on the plain white package. Subjects privately viewed 1 of 3 images projected on a 15-inch color computer monitor for 4 seconds. The cigarette package was shown on a tabletop surrounded by a can of soda pop, a bottle of headache remedy, and a magazine. Following exposure, subjects were asked to recall the warning on the cigarette package.

As noted in Figure 1, recall levels for 2 of the 3 warnings were higher when subjects were exposed to the plain package. Recall levels for the "Smoking can kill you" warning were 22% for the regular package (95% confidence interval [CI] = 14%, 34%) and 56% for the plain package (95% CI = 44%, 67%;  $\chi^2 = 15.83$ ;  $P < .001$ ). Recall levels for

the "Cigarettes are addictive" warning were 13% for the regular package (95% CI = 8%, 23%) and 27% for the plain package (95% CI = 18%, 39%;  $\chi^2 = 3.75$ ;  $P = .06$ ). Recall of the "Tobacco smoke causes fatal lung disease in nonsmokers" warning was not enhanced, however, but was actually adversely affected by the plain package: recall levels were 15% for the regular package (95% CI = 11%, 24%) and 1% for the plain package (95% CI = 0%, 6%;  $\chi^2 = 6.34$ ;  $P < .05$ , by Yates correction).

Warnings on plain white packages may be more effective at getting attention and enhancing recall than warnings on regular packages. Responses to different messages varied, however. Recall of 2 starker, briefer, and more direct messages was enhanced by the plain packaging, but recall of a more technical, longer, and vaguer message was not. Further research is needed to determine exactly what accounts for these differences in response. □

### Contributors

M. E. Goldberg planned and designed the study, analyzed the data, and wrote the paper. J. Liefeld assisted in the design of the study, analysis of the data, and writing of the paper. J. Madiill and H. Vredenburg assisted in the design of the study.

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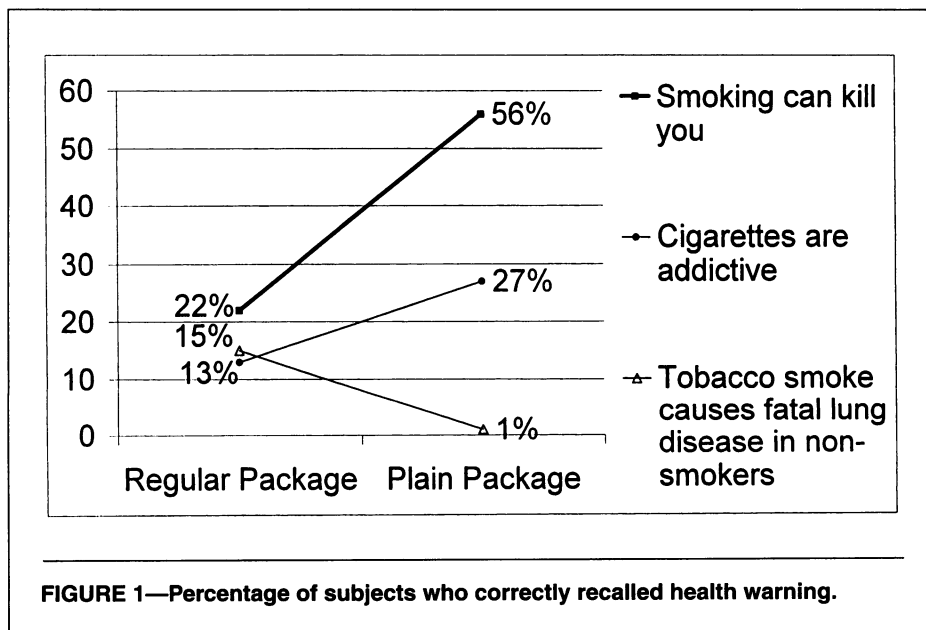


FIGURE 1—Percentage of subjects who correctly recalled health warning.