

**Risk communication on
low-dose radiation exposure
through a radiation & health seminar**

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Internal Radiation Exposure Test



Using a Whole Body Counter (WBC) to check the level of internal radiation exposure





Radiation & Health Seminar



Over 150 seminars were conducted in places like Soma-city, Minamisoma-city and Kawauchi-village.

Soma High School & Fukushima High School



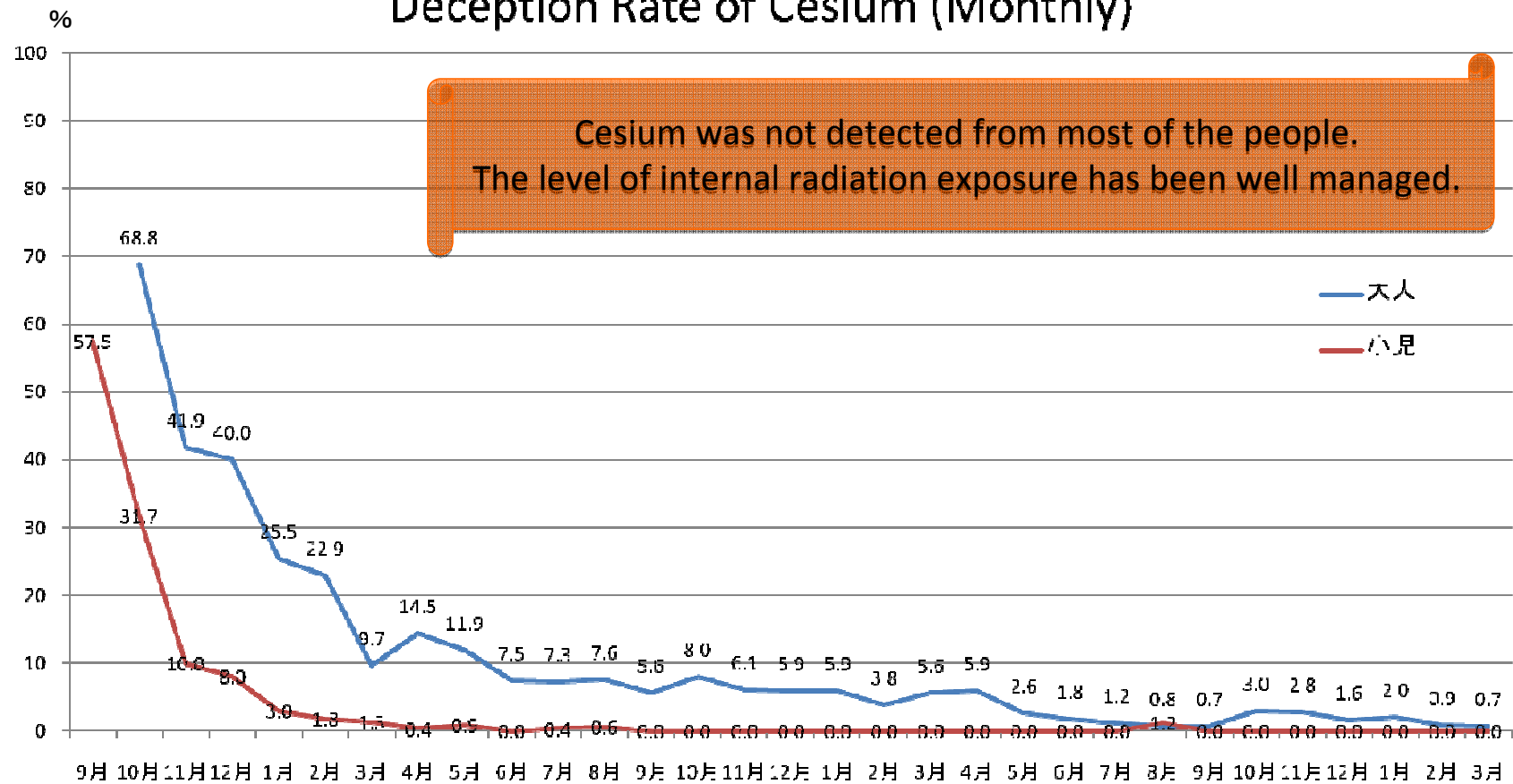
Different Types of Seminars and Study Sessions on Radiation & Health

- Organized by the local government for villagers
- For civil servants
- For students at schools
- For teachers at schools
- Organized by local organizations
- For medical professionals
- For evacuees living outside the Fukushima prefecture
- For people from outside the Fukushima prefecture

Current Situation and
the Public Understanding on
Internal Radiation Exposure

General Public + Students

Deception Rate of Cesium (Monthly)

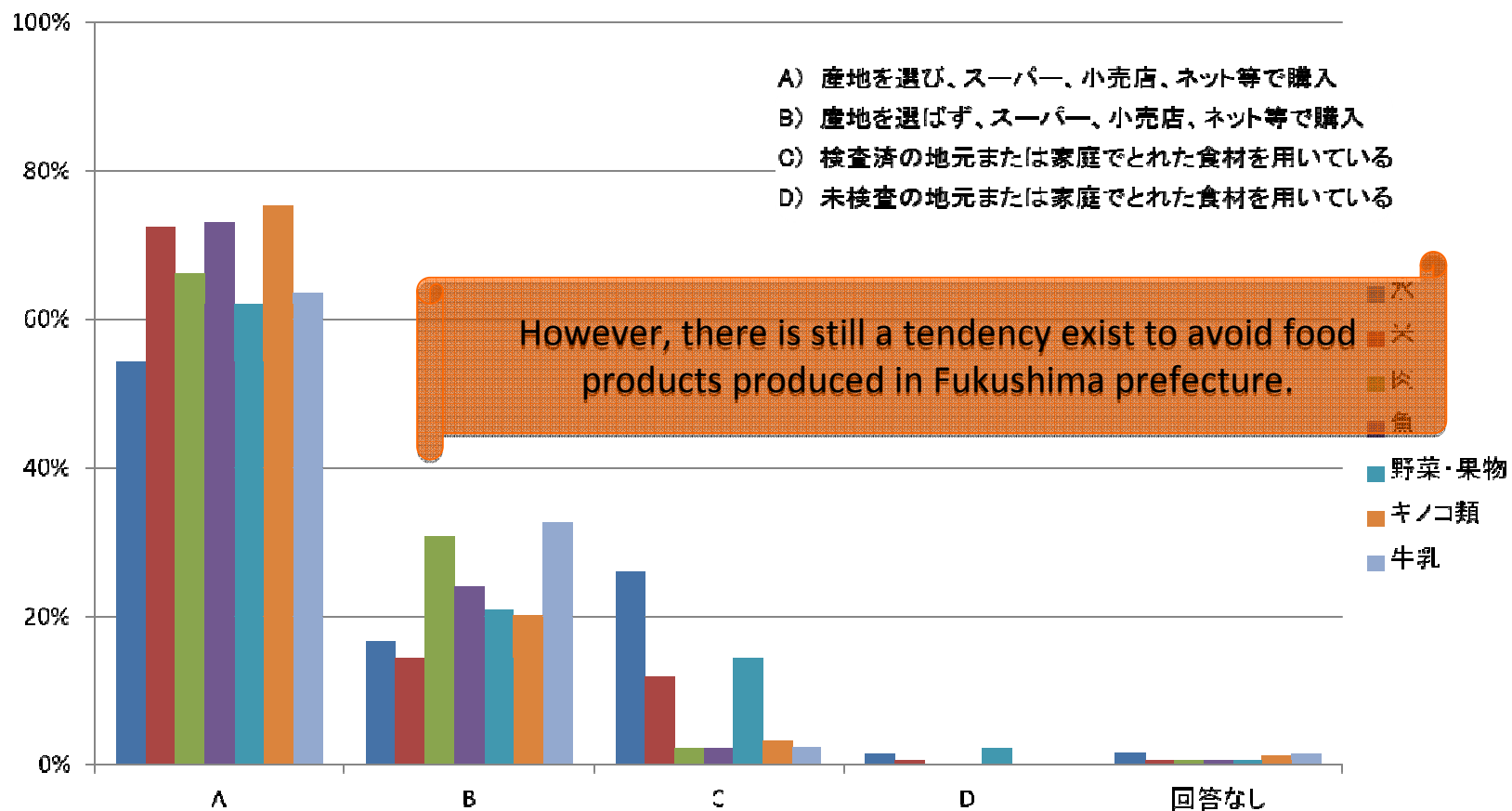


Cesium was not detected from most of the people.
The level of internal radiation exposure has been well managed.

※Detected is defined as if either Cesium 134 or Cesium 137, or both were detected above the detection limit.
※Adults is defined as older than middle school, and children is defined as younger than middle school students.

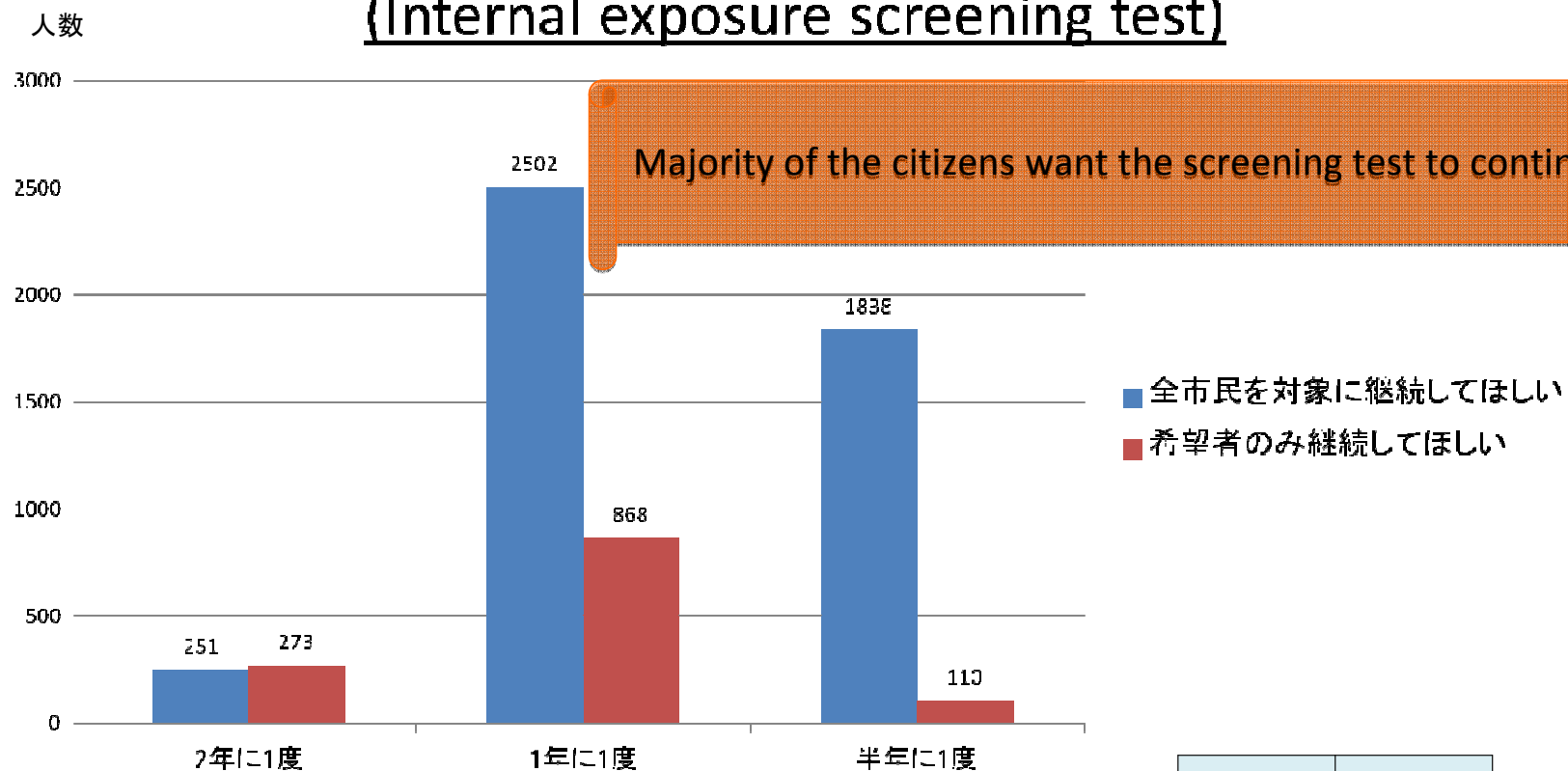
Including the data from Wanatabe hospital

Selection (Purchase) of food products



General Public + Students

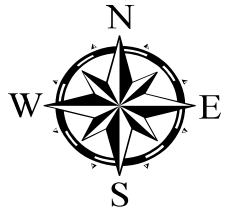
About the future WBC test (Internal exposure screening test)



Majority of the citizens want the screening test to continue.

不要である	回答なし
21	123

Generally speaking, there is a tendency that people living in more contaminated areas are likely to attend the screening test



WBC 受診率

凡例

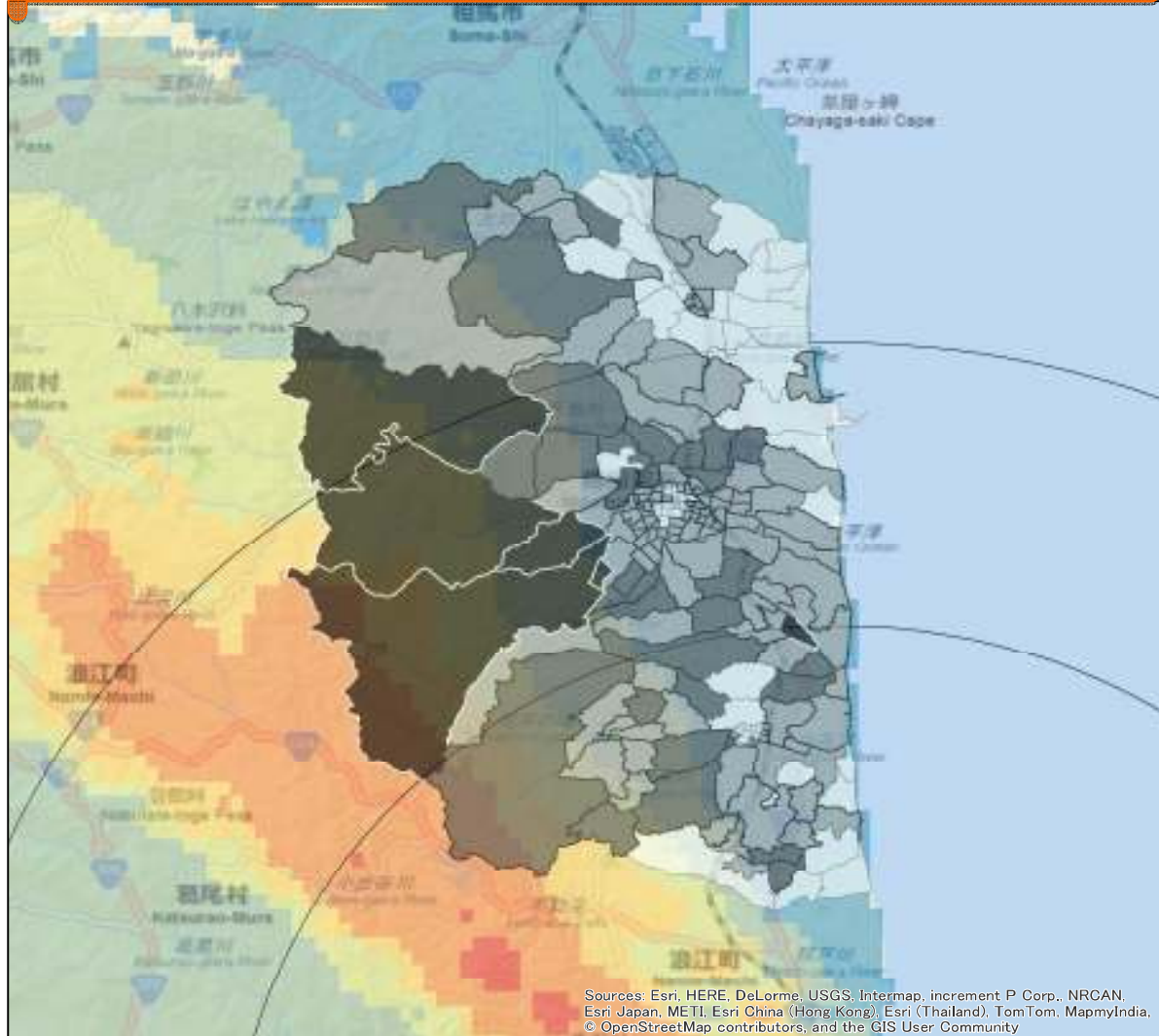
受診率

- 13.1% - 30%
- 30.1% - 40%
- 40.1% - 50%
- 50.1% - 71.2%

Soil Contamination level (Cs137)

- ≤ 100,000
- 100,001 - 300,000
- 300,001 - 600,000
- 600,001 - 1,000,000
- 1,000,001 - 3,000,000
- 3,000,000 <

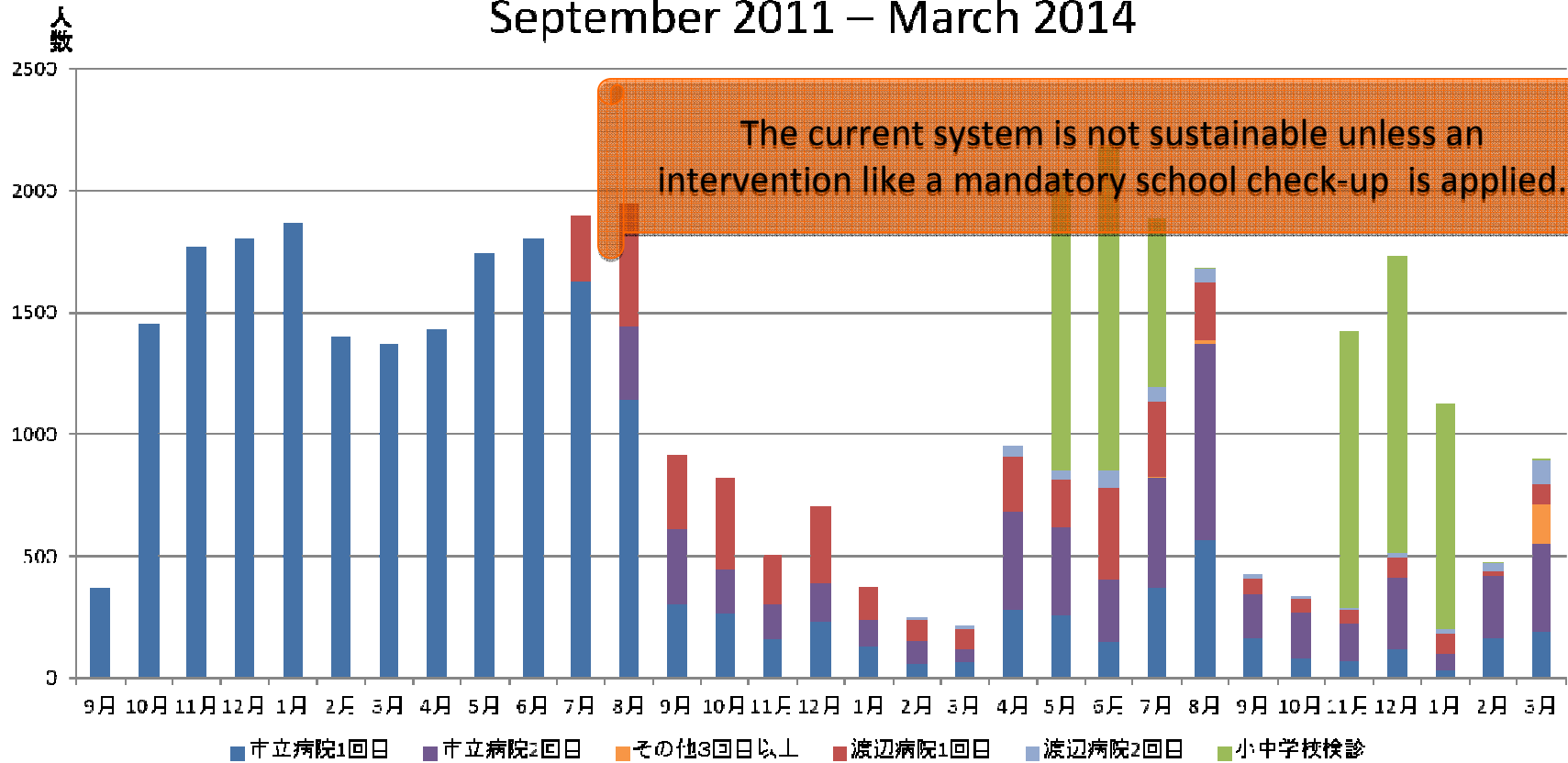
0 1.5 3 6 9 12 Kilometers



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

General Public + Students

Number of people attended the screening test (Monthly) September 2011 – March 2014



The current system is not sustainable unless an intervention like a mandatory school check-up is applied.

※Others (more than three times) implies students from Fukushima high school and elementary to middle school students living outside the prefecture.

Including the data from Wanatabe hospital

Reasons for not taking the WBC test (Internal exposure screening test) (Target populated: 221 unattended individuals)

(Multiple answers allowed)

検査通知の問題

- (1) 当院が検査を実施していることを知らなかった。
- (2) 検査の申し込み方法が分からなかった。
- (3) 今現在自分が検査できるのか分からないから。

受診時間、方法の問題

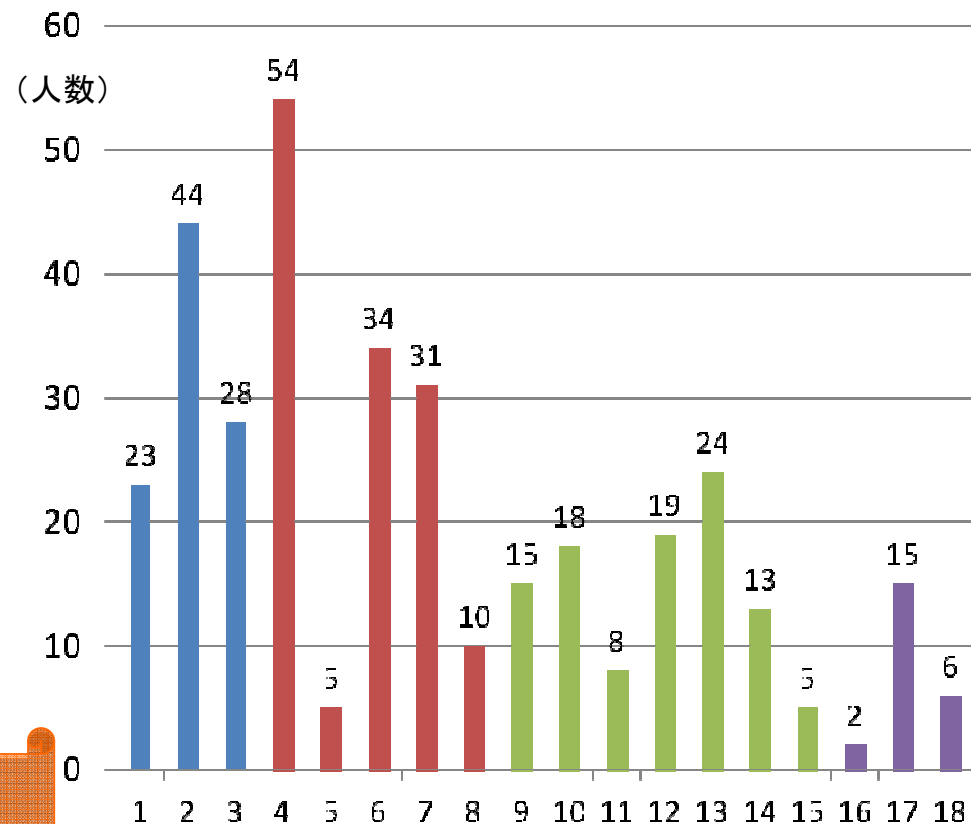
- (4) 仕事や学校があり、平日昼間の受診ができないから。
- (5) 平日夜間に検査していないから。
- (6) 土曜日に検査可能なら受診するつもりである。
- (7) 日曜日に検査していないから
- (8) 交通手段が無いから。

検査の結果解釈の問題

- (9) 今現在市から発表されている値を見て、問題ないと考えているから。
- (10) 自分からは検出しないだろうと思うから。
- (11) 家族、知人の結果を見たから。
- (12) 今更検査をしても、事故から時間がたちすぎていて遅いから。
- (13) 自分の年齢では放射線の影響は少なく、検査は必要ないから。
- (14) 食品を選べば内部被ばくを抑えることが出来るから。
- (15) ホールボディカウンター検査の精度自体に疑問があるから。

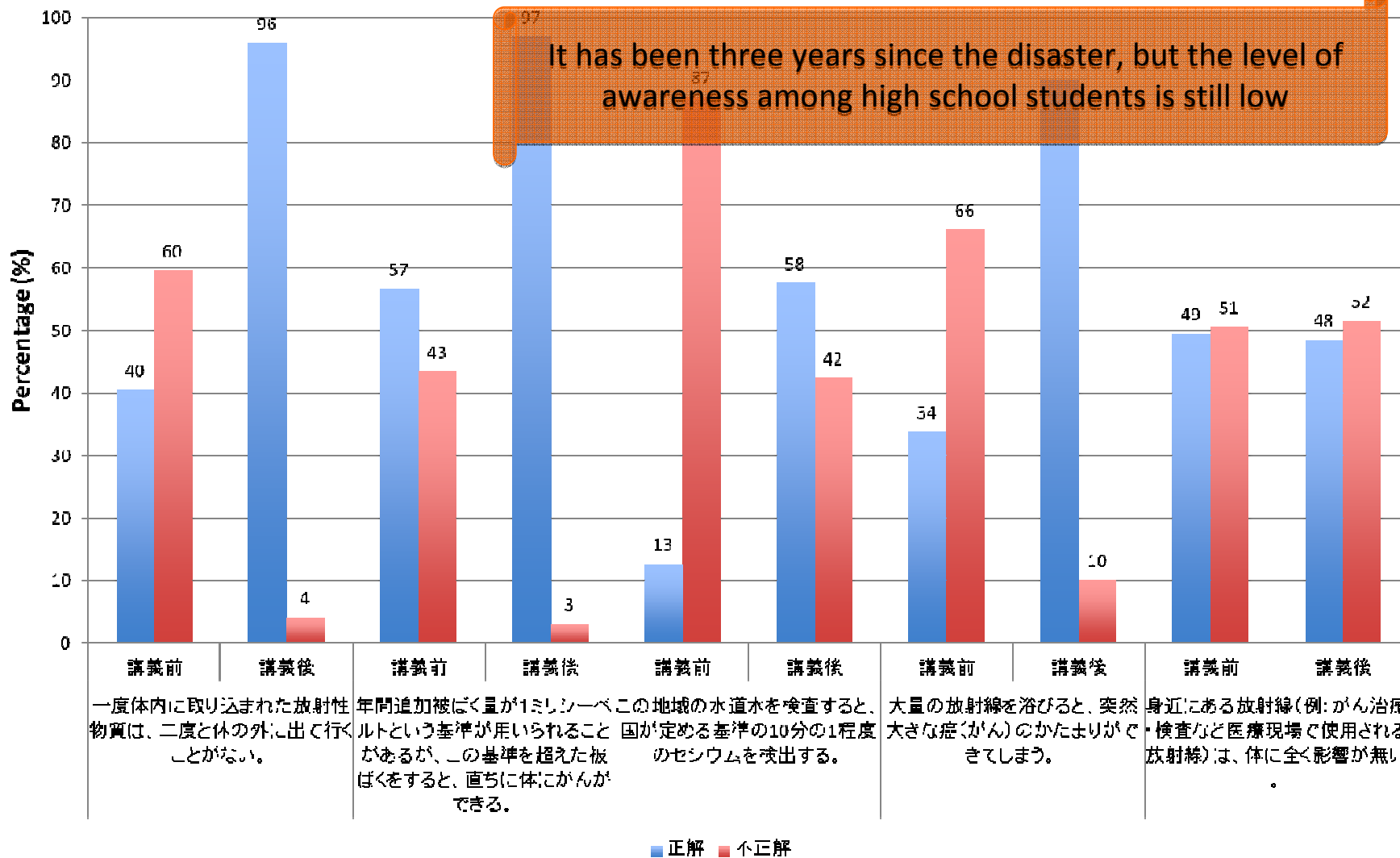
その他の問題

- (16) 当院(南相馬市立総合病院)以外で検査を受けたことがあるから。
- (17) 福島県外に住んでおり、当院まで遠いから。
- (18) 福島県外に住んでおり、放射線の影響が少ないと考えるから。



One of the major reasons for not attending the screening test was "It is not open during the weekends"

Assessment of the level of awareness of radiation & health for high school students



Q. Things I would like to know about radiation

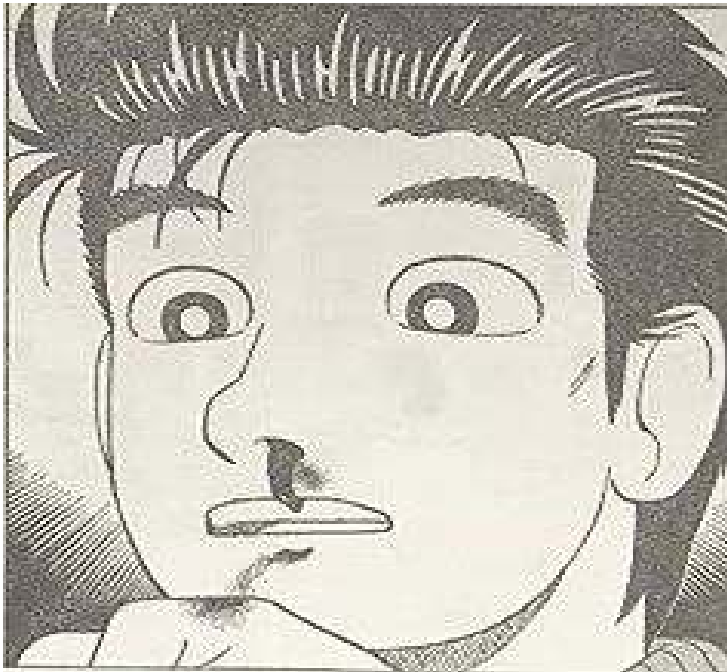
We no longer discuss about radiation issues, but there are still students with self-destructive comments.

Contents	#
Future health effects	16
Water & seafood safety	6
How long will it take until we can live without worrying about radiation?	5
The amount of radiation we are currently exposed to	4
The actual contamination level	3
Things we need to be careful of	3
Differences between internal and external exposure	2
Vegetables/food products safety	2
Methods on how to get rid of radiation	2
Issues on decontamination & release of the No Entry Zone	2
Differences between Chernobyl and Hiroshima	2
Safety of areas around my house	1
Differences between artificial and naturally occurring radiation	1
Methods on how to get rid of radiation from our body	1
Ways to read radiation level in units.	1
Differences between radiation in Japan and abroad	1

Other comments:

- I am not interested. I do not see a point in discussing about something that had happened more than two years ago.
- I am not interested. How the knowledge on radiation would help us get rid of the radiation we have been already exposed to?
- I do not really know about it, but I think I would probably die of cancer.
- I do not know if we will be healthy in ten years.

OISHIMBO



- Majority of the people are not worried.
- But some people do get worried once in awhile when something happens.

- Marriage, Pregnancy, Giving birth
- Miscarriage
(50% of women in their 40s).
- Health status of oneself and family
(One out of two women die of cancer)

It is important to provide support for the people to be able to understand and expect what would happen to them in the future.

The purpose of information sharing

- ① To prevent loss of self-confidence
(For them to continue their normal daily life)

- ② To prevent isolation
(Socially, Economically, Physically, Physiologically etc...)

It is important to share the information (e.g., the result on screening test), and to provide additional support/service.

When and where?

- One of the current issues for information sharing is finding a place.
- With the current seminar style, it is no longer possible to reach out to people we need to reach out. Not many people or organizations are showing their interest.
- Therefore, we need a support especially from medical professionals, school teachers, government staff and those who have been directly involved in food inspection.
- School education is also very important.

Information sharing should align with the current situation

- Undetected internal exposure using a WBC machine → low risk of internal radiation exposure
- + It is okay to continue the current living style
- + It is okay to consume different types of food
- + People would have free access to the screening test in the future
- + It is possible to understand people's diet and to what extent he/she has been exposed to radiation.

Thank you very much