

## 5. Pregnancy and Birth Survey

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## Part 2 Survey Results

# 5. Pregnancy and Birth Survey

Radiation Medical Science Center for the Fukushima Health Management Survey  
FUJIMORI Keiya, OHTA Misao, GOTO Aya, YASUDA Shun, ISHII Kayoko

## 1. Pregnancy and Birth Survey (Main Survey)

### 1) Purpose

The purpose of this survey is to gain an accurate understanding of the physical and mental health of pregnant and nursing mothers in Fukushima Prefecture, as well as their opinions and requests, in order to alleviate their anxiety and provide them with necessary care, as well as to provide them with peace of mind and enhance obstetric and perinatal care in Fukushima Prefecture.

### 2) Outline of the survey

#### (1) Eligible persons

Eligible persons for the Pregnancy and Birth Survey are as shown in Table 1.

**A)** Those who received their Maternal and Child Health Handbook from municipalities in Fukushima Prefecture between August 1 of the previous year and July 31 of the survey year [Group 1].

**B)** Those who received their Maternal and Child

Health Handbook from municipalities outside Fukushima Prefecture during the above period, but who underwent maternal health checks and gave birth in Fukushima Prefecture (so-called "homecoming delivery") [Group 2].

#### (2) Implementation method

**A)** Questionnaire: Self-administered questionnaire

**B)** Sending questionnaire forms:

[Group 1]

Timing:

Questionnaire forms were sent at the same time of year from FY2011 to FY2013.

From FY2014 onward, the questionnaire forms were sent to eligible persons on three separate occasions, according to the expected dates of delivery, based on the pregnancy notification information obtained from 59 municipalities in Fukushima Prefecture, so that the questionnaire forms would be delivered after the baby's one-month old health check.

Selection of eligible persons:

For FY2011 to FY2015 surveys: Questionnaire forms were sent to all those listed by municipalities.

For FY2016 survey: Questionnaire forms were sent to all those in the list provided by municipalities after excluding those who had miscarriages or stillbirths and those for whom the survival of the child was unknown.

From FY2017 survey onward: Questionnaire forms were sent to all those in the list provided by municipalities, but we asked municipalities to exclude those who had miscarriages or stillbirths and those for whom the survival of the child was unknown and provide only the numbers of these cases.

Table 1. Number of eligible persons for the FY2011-FY2018 surveys and period when they received their maternal and child health handbook

Survey year	Period during which respondents received their Maternal and Child Health Handbook	No. of intended respondents
FY2011	Aug. 1, 2010 - Jul. 31, 2011	16,001
FY2012	Aug. 1, 2011 - Jul. 31, 2012	14,516
FY2013	Aug. 1, 2012 - Jul. 31, 2013	15,218
FY2014	Aug. 1, 2013 - Jul. 31, 2014	15,125
FY2015	Aug. 1, 2014 - Jul. 31, 2015	14,572
FY2016	Aug. 1, 2015 - Jul. 31, 2016	14,154
FY2017	Aug. 1, 2016 - Jul. 31, 2017	13,552
FY2018	Aug. 1, 2017 - Jul. 31, 2018	12,838



Figure 1. Invitation to the Pregnancy and Birth Survey



Figure 2. Questionnaire form (partial excerpt)

[Group 2]

Questionnaire forms were sent out as needed with the cooperation of obstetric medical facilities in Fukushima Prefecture.

C) Response method

Questionnaire forms were sent by post together with the "Invitation to the Pregnancy and Birth Survey" (Figure 1) and a request to return the form by post.

In addition, an online response system was introduced in FY2016 for the convenience of respondents.

(3) Questionnaire items (Figure 2)

The main items in the questionnaire are as follows.

- A) Pregnancy outcomes and health status of the child
- B) Mental health of pregnant and nursing mothers

- ers
- C) Current living conditions (evacuation, family separation)
- D) Childbirth status and maternal health status during pregnancy
- E) Confidence in child rearing
- F) Expectations for the next pregnancy

(4) Data tabulation period

Questionnaire forms were sent out on the planned dates in each survey year, but with no deadline for responses. However, the periods for data tabulation for compiling survey reports were set as shown in Table 2.

(5) Implementation schedule (Figure 3)

Before sending out the questionnaire forms, we requested that municipalities provide us with a list of eligible persons. From FY2011 to FY2013, we mailed the questionnaire forms all at the same

Table 2. Data tabulation period and online response acceptance period for the FY2011-FY2018 surveys

Survey year	Data tabulation period	Online response acceptance period
FY2011	Jan. 20, 2012 - Mar. 31, 2013	Online response was not implemented.
FY2012	Dec. 14, 2012 - Nov. 30, 2013	Online response was not implemented.
FY2013	Dec. 24, 2013 - Dec. 26, 2014	Online response was not implemented.
FY2014	Nov. 20, 2014 - Dec. 18, 2015	Online response was not implemented.
FY2015	Nov. 24, 2015 - Dec. 16, 2016	Online response was not implemented.
FY2016	Nov. 22, 2016 - Dec. 15, 2017	Nov. 22, 2016 - Aug. 31, 2017
FY2017	Nov. 1, 2017 - Dec. 21, 2018	Nov. 1, 2017 - Apr. 30, 2018
FY2018	Nov. 1, 2018 - Dec. 20, 2019	Nov. 1, 2018 - Apr. 30, 2019

Steps	Year X												Year Y											
	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.			
Request municipalities to provide information of expected respondents for the Year Y survey					▼																			
Send out questionnaires for the Year Y survey									▼	▼	▼													
Collect responses																								
Send thank-you cards to respondents																								
Provide support to those deemed in need of support																								

Figure 3. Schedule of the Pregnancy and Birth Survey



Figure 4. Thank-you card to the Pregnancy and Birth Survey respondents

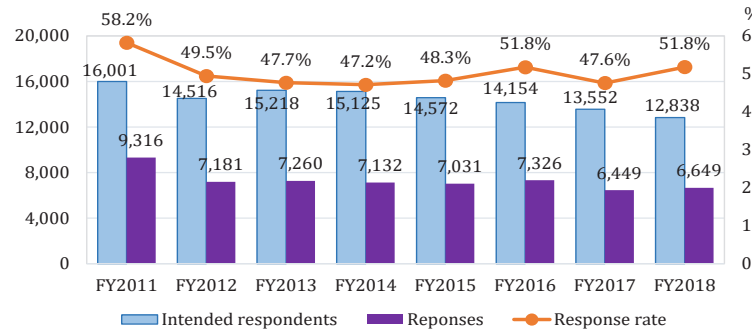


Figure 5. Number of eligible persons, number of responses, and response rate to the FY2011-FY2018 surveys

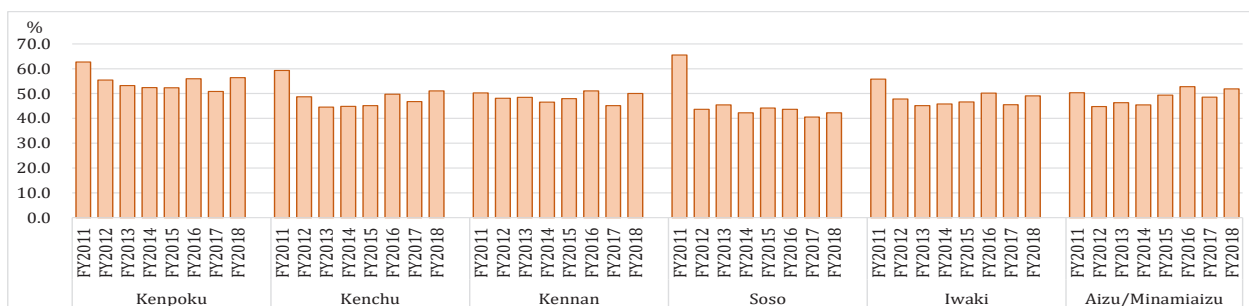


Figure 6. Response rate to the FY2011-FY2018 surveys, by district

time, but since FY2014, we have sent the questionnaire forms on three separate occasions and followed up with thank-you cards (Figure 4). In parallel with collecting questionnaire responses, we provide timely support to those who are identified in need of it.

### 3) Survey results and analysis

The actual number of responses to each questionnaire item may not add up to the expected total, due to missing answers on individual surveys.

**(1) Results and analysis****A) Number of eligible persons, number of responses and response rate**

The number of eligible persons in the Main Survey temporarily decreased in FY2012 and recovered in FY2013, but has been on a downward trend since then, similar to the number of births nationwide.

The response rate remained around 50% throughout the eight years, indicating a high level of interest in the survey (Figure 5). By district, the response rate exceeded 60% in Kenpoku and Soso (Soma and Futaba Counties) immediately after the earthquake, but since then, there has been no noticeable change in each district (Figure 6).

**B) Results***a. Mode of conception and outcome*

From FY2011 to FY2016, the proportions of miscarriages and abortions ranged from 0.62% to 0.85% and from 0.04% to 0.16%, respectively; from FY2017 onward, the proportions of miscarriages, stillbirths, and cases where the survival of the child was unknown were excluded from the

Table 3. Proportion of miscarriages and abortions in the FY2011-FY2018 surveys

Survey year	Miscarriages	Abortions	Intended questionnaire recipients
FY2011	0.77%	0.06%	All those in the list provided by municipalities
FY2012	0.81%	0.08%	
FY2013	0.78%	0.04%	
FY2014	0.62%	0.07%	
FY2015	0.81%	0.16%	
FY2016	0.85%	0.16%	All those in the list provided by municipalities excluding the following people: -Those who had miscarriages or stillbirths -Those for whom the survival of the child was unknown
FY2017	0.34%	0.06%	All those in the list provided by municipalities, but we asked municipalities to exclude those who had miscarriages or stillbirths and those for whom the survival of the child is unknown in advance and provide only the numbers of these cases.
FY2018	0.43%	0.02%	

Results of the FY2017 survey and onward cannot be compared with those of previous surveys as the intended recipients were different.

survey in advance, resulting in a decrease in the respective categories (Table 3).

In an analysis using data from the FY2011 survey, we found that pregnant women who were 28 weeks or more pregnant at the time of the earthquake had an increased risk of hypertensive disorders of pregnancy.<sup>1)</sup> Also, an increased prevalence of respiratory diseases and mental disorders during pregnancy was observed among those who became pregnant within 6 months of the Great East Japan Earthquake.<sup>2)</sup>

In addition, when looking at ART (assisted reproductive technologies) in Fukushima Prefecture, the ART implementation rate decreased immediately after the earthquake, but no long-term effects were observed.<sup>3)</sup>

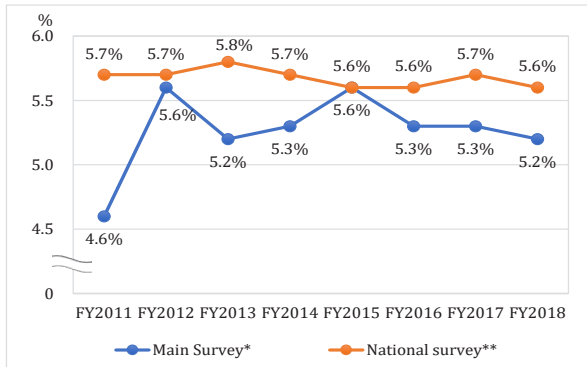
*b. Conditions of newborn infants*

The results of the FY2011 to FY2018 surveys showed that the incidences of preterm births and low birth weight babies did not differ much from government statistics and commonly reported data in each year (Figures 7 and 8). We published a paper indicating that the incidences of stillbirths, premature births, low birth weight, and congenital anomalies in the FY2011 survey was similar to Japanese national averages.<sup>4)</sup>

We also published papers indicating that the incidences of preterm births and low birth weight babies increased among women who became pregnant within 6 months after the earthquake, compared to those who became pregnant before the earthquake or more than 6 months after the earthquake,<sup>2)</sup> and that there was no significant association with preterm birth if the pregnant women themselves changed hospitals, but they were 8.5 times more likely to have a preterm birth if they were transferred to other hospitals for medical reasons.<sup>5)</sup>

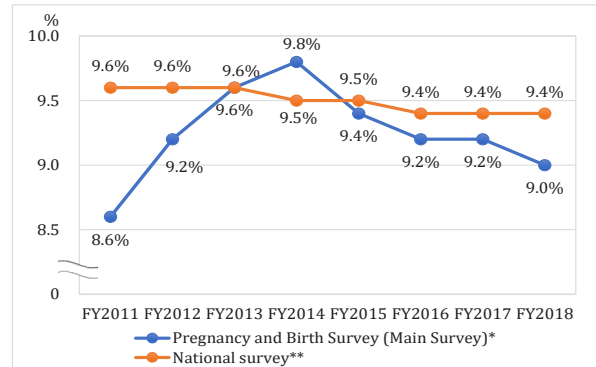
A comparison of the proportion of babies born small for gestational age (SGA) between the districts in Hamadori Area, which are closer to the Fukushima Daiichi Nuclear Power Plant, and other districts showed that SGA was not affected by the area of residence at the time of the disaster or the time of pregnancy, but hypertensive disorder of pregnancy was a risk factor.<sup>6)</sup>

The incidence of congenital anomalies in singleton pregnancies was not higher than generally



\*Above data are slightly different from those published in previous reports because calculation was redone after subtracting the number of stillbirths.  
\*\* Data from the Vital Statistics of Japan

Figure 7. Proportion of preterm births (babies born at less than 22-37 weeks' gestation) in the FY2011-FY2018 surveys



\*Above data are slightly different from those published in previous reports because calculation was redone after subtracting the number of stillbirths.  
\*\* Data from the Vital Statistics of Japan

Figure 8. Proportion of low birth weight babies (babies born smaller than 2,500g) in the FY2011-FY2018 surveys

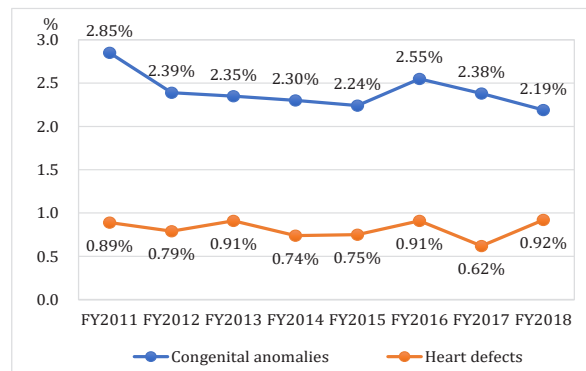


Figure 9. Incidence of congenital anomalies in the FY2011-FY2018 surveys in singleton pregnancies

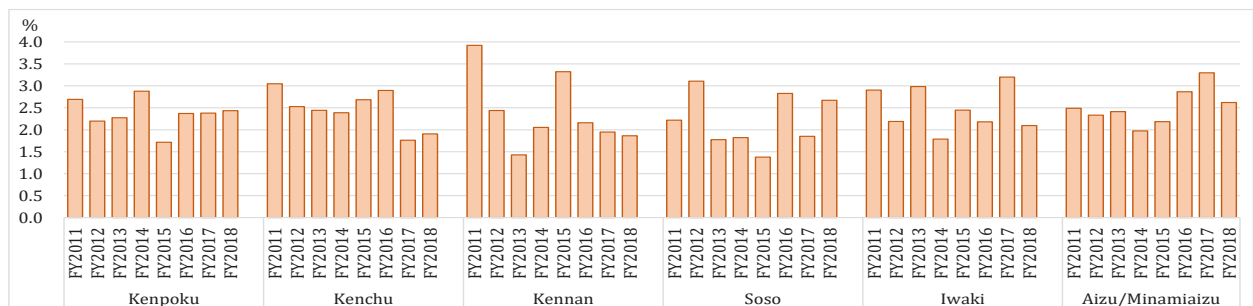


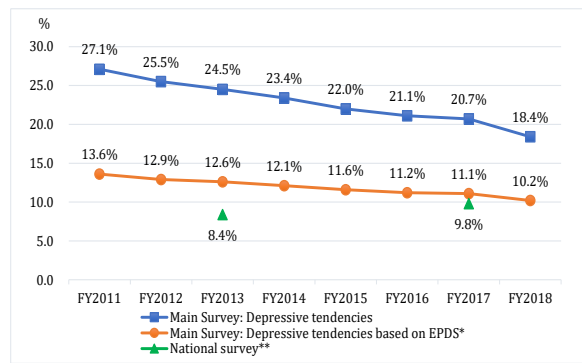
Figure 10. Incidence of congenital anomalies in singleton pregnancies in the FY2011 to FY2018 surveys, by district

observed, and there was no difference in the incidence by district. Among congenital anomalies, cardiac malformations were the most common (Figures 9 and 10). According to the Guideline for Gynecological Practice (2020), the frequency of morphological abnormalities that can be confirmed at birth (fetal malformations) is 3 to 5%, and the causes are diverse. The spontaneous occurrence of cardiac malformations is said to be about 1%.

*c. Mothers' mental health (prevalence of depressive tendencies)*

The number of respondents who answered "I tend to feel depressed" and/or "I am not interested in things" was higher in the beginning of the survey than in the FY2013 national survey, but has been on a downward trend since then (Figure 11). Analyzing data from the FY2011 survey, we found that the tendency toward depression was higher in the Soso District, which is near





\*EPDS: Estimation based on Edinburgh Postnatal Depression Scale  
Reference: Mishina H, et al. *Pediatr Int.* 2009; 51: 48.  
\*\*National survey: Proportion of those with suspected postnatal depression based on EPDS was 8.4% in FY2013 and 9.8% in FY2017 in the Healthy Parents and Children 21 (second term) (national initiative to promote maternal and child health).

Figure 11. Prevalence of postnatal depressive tendencies in the FY2011-FY2018 surveys

the nuclear power plant, than in Iwaki and Aizu. Respondents who changed hospitals where they planned to receive antenatal health checks and deliver their babies after the disaster were also more likely to be depressed.<sup>7)</sup> In addition, respondents who had miscarriage or stillbirth were more likely to be depressed than those who gave live birth.

*d. Care during pregnancy and delivery*

The proportion of respondents who were not satisfied with their overall care during pregnancy and delivery was 3.5%, which is small as a percentage of the total and has been decreasing over time (Table 4).

*e. Family and child rearing situation (proportion of evacuees, proportion of those who are not confident about child rearing, and methods of feeding babies)*

The proportion of respondents who answered that they are still living as evacuees has been decreasing over time (Table 5). From an analysis of FY2012 survey data, respondents who received their Maternal and Child Health Handbook from municipalities that were designated for evacuation and respondents who are still evacuated were significantly more likely to be depressed, especially those who are still evacuated and living apart from their families, and those who did not answer that they had good communication with their families.<sup>9)</sup>

The proportion of those who answered that they sometimes feel unconfident about child

rearing has remained at slightly less than 20% since immediately after the earthquake (Table 6). Analysis of data from the FY2012 and FY2013 surveys showed that depressive tendencies were associated with respondents' evacuation situation and concern about radiation, but low confidence in child rearing was not correlated with their evacuation situation or concern about radiation.<sup>10)</sup>

Analysis of data from the FY2011 showed that respondents who received their Maternal and Child Health Handbook from municipalities designated as the evacuation zone and those who were unable to receive a prenatal health check as scheduled were significantly more likely to formula feed due to anxieties about radiation contamination.<sup>11)</sup> A comparison between the Soso District, which was severely affected by the disaster, and the Aizu, which was less affected by the disaster, showed that there was no difference in the growth of children at the time of their one month health check, but the proportion of those formula feeding increased with time after the disaster in the Soso District.<sup>12)</sup>

*f. Hopes and desires for subsequent pregnancy and childbirth*

The proportion of respondents who wish to become pregnant or have another baby has consistently exceeded 50% from immediately after the earthquake to the present. In the FY2012 to FY2014 surveys, concern about the effects of radiation was associated with not wishing to become pregnant again or have another baby in

Table 4. Proportion of respondents dissatisfied with their care during pregnancy and delivery in the FY2011-FY2018 surveys

Survey year	Respondents who answered "Disagree" or "Strongly disagree" to the question that they were satisfied with their care during pregnancy and delivery
FY2011	This question was not included.
FY2012	3.5%
FY2013	2.3%
FY2014	2.7%
FY2015	2.4%
FY2016	2.1%
FY2017	1.7%
FY2018	1.7%

Table 5. Proportion of respondents who were living as evacuees in the FY2011-FY2018 surveys

Survey year	Respondents who answered that they were living as evacuees (either in temporary housing or in other types of housing)
FY2011	This question was not included.
FY2012	7.7%
FY2013	5.5%
FY2014	4.9%
FY2015	3.8%
FY2016	3.4%
FY2017	2.3%
FY2018	1.8%

Table 6. Proportion of respondents who answered that they feel unconfident about child rearing in the FY2011-FY2018 surveys

Survey year	Respondents who answered that they were not confident about child rearing
FY2011	This question was not included.
FY2012	15.4%
FY2013	17.5%
FY2014	16.6%
FY2015	17.7%
FY2016	16.6%
FY2017	18.1%
FY2018	17.7%

the case of first-time mothers.<sup>13)</sup> In the FY2017 and FY2018 surveys, however, the percentage was below 1% (Table 7).

#### g. Free comments

The most common free comments were requests for more childcare support services, followed by

Table 7. Proportions of respondents who wish to become pregnant again or have another baby and those who do not wish to have another baby because of their worry about radiation in the FY2011-FY2018 surveys

Survey year	Those who answered that they wish to become pregnant again or have another baby	Those who answered that they do not wish to have another baby because they worry about the health effects of radiation*
FY2011	This question was not included.	
FY2012	52.9%	14.8%
FY2013	52.8%	5.6%
FY2014	57.1%	3.9%
FY2015	53.3%	1.6%
FY2016	54.6%	1.2%
FY2017	52.4%	0.8%
FY2018	52.2%	0.5%

Reference: Proportion of couples married less than 10 years and wishing to have a baby was 60% (51% if the couples already have a child) and 57% (50% if the couples have a child) in the 14th (2010) and 15th (2015) National Fertility Surveys, respectively.

\*The denominator is the number of those who answered that they do not wish to have another baby and provided a reason.

Table 8. Numbers (proportions) of respondents who wrote in the free comment section of the questionnaire and comments related to radiation effects on children in the FY2011-FY2018 surveys

Survey year	Respondents who wrote comments in the free comment section	Comments related to radiation effects on children*
FY2011	3,722 (42.2%)	1,102 (29.6%)
FY2012	1,481 (20.7%)	391 (26.4%)
FY2013	867 (12.0%)	112 (12.9%)
FY2014	745 (10.5%)	71 (9.5%)
FY2015	1,101 (15.7%)	57 (5.2%)
FY2016	965 (13.3%)	59 (6.1%)
FY2017	799 (12.4%)	38 (4.8%)
FY2018	881 (13.4%)	16 (1.8%)

\*The denominator is the total number of respondents who wrote in the free comment section.

childcare counseling. Comments regarding radiation effects on the fetus and child, which were the most common comments in FY2011 and FY2012, showed a decreasing trend. The proportion of comments on radiation effects on the fetus and child was about 30% at the beginning of the survey, but has been decreasing over the years, and



has recently decreased to about 2% (Table 8).

In the analysis using data from the FY2011 to FY2013 surveys, the proportion of respondents who wrote in the free comment section was higher among those aged 30 and above and had a tendency toward depression than among those who did not write in the free comment section. In addition, as the year passed, the content of the comments changed from radiation-related issues to the respondent's own physical and mental health.<sup>14)</sup>

#### 4) Support for the Main Survey respondents

##### (1) Purpose of support

In order to alleviate anxieties among the respondents to the Pregnancy and Birth Survey, midwives, public health nurses, and other qualified support staff provide consultation and support via telephone or e-mail to the respondents who were identified in need of consultation and support.

##### (2) Support recipients

Among the respondents to the Pregnancy and Birth Survey, those who are identified in need of telephone consultation and support were selected based on the criteria shown below.

##### (3) Selection criteria

Those who fall under either of the following are selected as potential support recipients.

- A) Those who fall under two depression tendency items in the questionnaire.

- B) Those who are identified in need of support based on in the content of their free comments and/or responses to other questions (e.g., those who wrote comments that indicate severe depression, those who need childcare support, those who are concerned about radiation levels, those who complain about physical conditions, those who specifically request answers to their questions, those who have requests for support, etc.).

##### (4) Support method (Figures 12 and 13)

- A) Upon receipt of responses, we immediately check the content and free comments to assess the need for support.
- B) Midwives, public health nurses, and other qualified support staff, affiliated with Fukushima Medical University's Radiation Medical Science Center for the Fukushima Health Management Survey (hereinafter "Center"), provide consultation and support by telephone and email.
- C) If there is a case that requires more specialized care, the Center will refer the respondent to a specialist doctor for further care. In addition, for those who are identified as needing to be watched over in their community, we will request the municipality where they live to follow up.

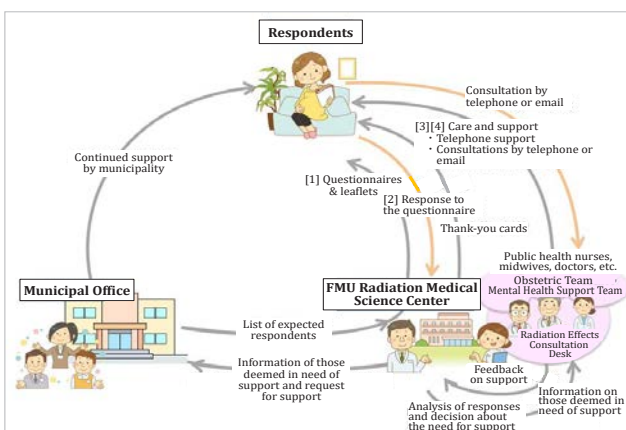


Figure 12. Flow of telephone support



Figure 13. Telephone support staff

D) A dedicated e-mail address and a dedicated telephone number for the Pregnancy and Birth Survey has been set up to receive consultations from and provide support to the survey respondents.

**(5) Support results**

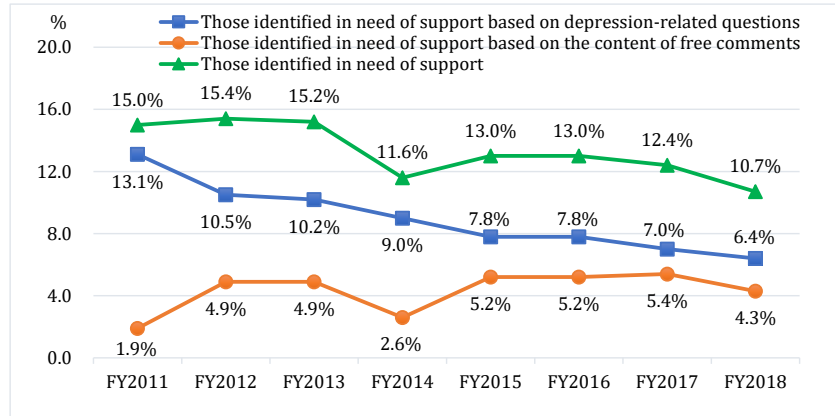
**A) Support provided**

The Center's midwives, public health nurses, and other qualified support staff provide consultation and support via telephone and e-mail to those who were identified in need of consultation and support based on the contents of their questionnaire responses. We have provided telephone support to nearly 1,000 people every fiscal year, but the proportion of those identified in need of telephone support has been decreasing. In particular, the proportion of those identified in need of support based on their responses to depression-related questions has decreased to about half of what it was right after the earthquake. Since FY2012, we have expanded the scope of

support recipients based on the content of their free comments, but the overall proportion of those identified in need of support has been decreasing (Figure 14). From data of the FY2011 survey, it was found that the proportion of those who received telephone support was significantly higher among those who were unable to receive antenatal health checks as scheduled after the earthquake, those who changed hospitals for their antenatal health checks and delivery, those with high-risk pregnancies, those who underwent cesarean section, and those who gave birth for the first time. The proportion of those who formula-fed their babies due to concerns about radiation effects was higher among telephone support recipients than those who did not receive telephone support.<sup>15)</sup>

**B) Contents of consultation**

The main contents of telephone consultation have been changing over the years. In FY2011, immediately after the earthquake, the most com-



- From FY2012 on, the scope of support recipients was expanded to include those identified in need of support based on the content of their free comments.
- Those identified in need of support based on depression-related questions and free comments are counted in the former group.

Figure 14. Proportion of those identified in need of support (based on depression-related questions and content of free comments)

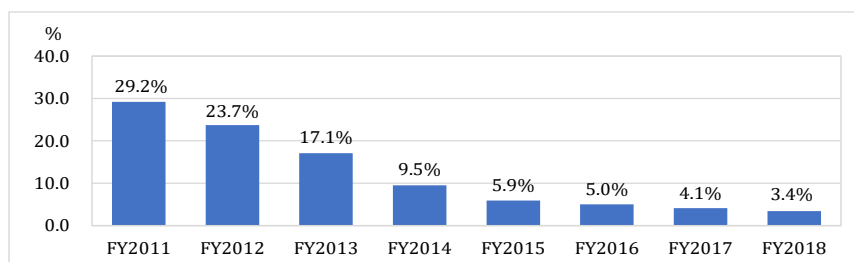


Figure 15. Proportion of contents related to concerns about radiation effects

Table 9. Contents of consultation

Number (%)

Ranking	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
1	Concerns about radiation effects 409 (29.2%)	Mother's physical and mental state 369 (33.4%)	Mother's physical and mental state 468 (42.5%)	Mother's physical and mental state 411 (49.5%)	Mother's physical and mental state 485 (53.1%)	Mother's physical and mental state 569 (59.8%)	Mother's physical and mental state 444 (55.6%)	Mother's physical and mental state 378 (53.2%)
2	Mother's physical and mental state 283 (20.2%)	Child rearing-related (daily life) issues 295 (26.7%)	Child rearing-related (daily life) issues 426 (38.7%)	Child rearing-related (daily life) issues 300 (36.1%)	Child rearing-related (daily life) issues 373 (40.9%)	Child rearing-related (daily life) issues 413 (43.4%)	Child rearing-related (daily life) issues 414 (51.8%)	Child rearing-related (daily life) issues 294 (41.4%)
3	Child rearing-related (daily life) issues 196 (14.0%)	Concerns about radiation effects 262 (23.7%)	Child's physical and mental health 224 (20.3%)	Family life-related issues 170 (20.5%)	Family life-related issues 199 (21.8%)	Family life-related issues 185 (19.5%)	Family life-related issues 131 (16.4%)	Child's physical and mental health 114 (16.0%)
Total number	1,401	1,104	1,101	830	913	951	799	711

• Multiple topics may be talked about in one session.

Table 10. Reasons for ending telephone support

Survey year	1		2		3		Could not reach	Those in need of support
FY2011	Listened carefully* <sup>1</sup>	1,048 (74.8%)	Confirmed consultation availability* <sup>2</sup>	149 (10.6%)	Q & A* <sup>3</sup>	145 (10.3%)	188 (13.4%)	1,401
FY2012	Listened carefully	684 (62.0%)	Provided information* <sup>4</sup>	468 (42.4%)	Q & A	186 (16.8%)	186 (16.8%)	1,104
FY2013	Listened carefully	679 (61.7%)	Provided information	473 (43.0%)	Confirmed consultation availability	271 (24.6%)	209 (19.0%)	1,101
FY2014	Listened carefully	496 (59.8%)	Provided information	398 (48.0%)	Confirmed consultation availability	219 (26.4%)	181 (21.8%)	830
FY2015	Listened carefully	669 (73.3%)	Provided information	452 (49.5%)	Confirmed consultation availability	275 (30.1%)	190 (20.8%)	913
FY2016	Listened carefully	696 (73.2%)	Confirmed consultation availability	199 (20.9%)	Provided information	164 (17.2%)	226 (23.8%)	951
FY2017	Listened carefully	577 (72.2%)	Provided information	238 (29.8%)	Confirmed consultation availability	212 (26.5%)	181 (22.7%)	799
FY2018	Listened carefully	515 (72.4%)	Confirmed consultation availability	151 (21.2%)	Provided information	140 (19.7%)	160 (22.5%)	711

\*1 Support ended after listening carefully and helping to sort out the mother's own problems

\*2 Support ended after confirming that the mother has already seen a doctor or has someone to consult with.

\*3 Support ended after answering the mother's questions.

\*4 Support ended after providing information on relevant municipal departments and other useful information.

• Multiple reasons may apply for one person. The denominator of the percentages is the total number of respondents deemed in need of support.

mon content was "concerns about radiation effects," but its proportion has been decreasing over time (Figure 15). Since FY2012, the proportions of contents regarding the mother's own physical and mental state and child rearing (daily life) have increased to become the most common (Table 9). The specific contents of child rear-

ing-related issues include the amount of breast- or formula milk, weaning food, growth and development, and how to interact with the child.

### C) Reasons for ending support

The most common reasons for ending support were "listened carefully" (supporters listened

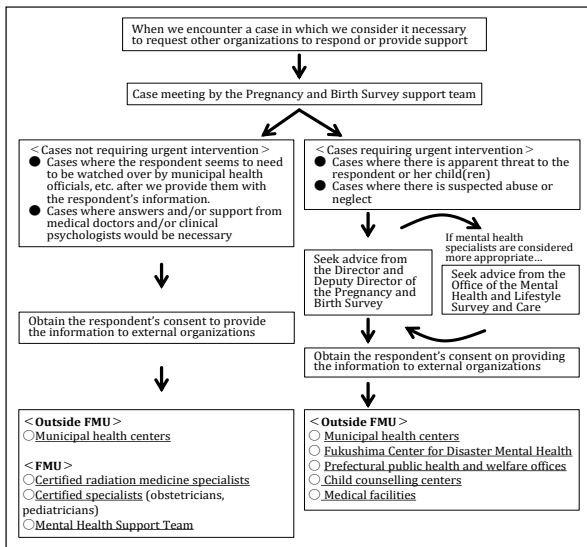


Figure 16. Flow of referrals to other organizations (outside the Office of the Pregnancy and Birth Survey)

carefully and helped to sort out the respondent's problems) and "confirmed consultation availability" (supporters confirmed that the respondent has already seen a doctor or has someone to consult with)." In FY2011 and FY2012, "Q & A" (supporters answered the respondent's questions) was also common. The proportion of those whom we could not reach due to absence has been increasing over the years (Table 10).

**D) Referral to other organizations**

If, based on the responses to the questionnaire, it is judged that there is an urgent need to connect the respondent to municipal resources, for reasons such as worsening of mental symptoms, childcare difficulties, neglect, abuse, or domestic

Table 11. Number of referrals to other organizations, etc. for respondents requiring support

Survey year	Municipal department in charge of maternal and child health	FMU's Radiation Effects Consultation Desk	FMU's Mental Health Support Team	Specialists at FMU
FY2011	2	7	4	2
FY2012	6	1	14	0
FY2013	1	0	6	1
FY2014	3	0	1	0
FY2015	1	1	0	0
FY2016	8	0	5	0
FY2017	4	0	2	0
FY2018	3	0	3	1

violence, referral will be made to relevant departments or organizations of the respondent's municipality, following the flow of referrals to other organizations (Figure 16). After consulting with the expert committee for the Pregnancy and Birth Survey and obtaining the respondent's consent for referral to the municipal office, we request that the municipal office arrange continued support for the respondent (Table 11).

**2. Pregnancy and Birth Survey (Follow-ups)**

**1) Purpose**

Those who responded to the Pregnancy and Birth Survey immediately after the earthquake had a particularly high proportion of depressive tendencies, and the content of their free comments included serious topics. For this reason, follow-up surveys were conducted from FY2015 (for the FY2011 survey respondents) to FY2018 (for the FY 2014 survey respondents), corresponding to four years after childbirth, when the number of mothers who lose confidence about rearing their children tends to increase and there are no health checks for their children. The purpose of the follow-up survey was to ascertain the health status of respondents and to continue providing telephone support to those who need it.

**2) Outline of the survey**

**(1) Eligible persons**

Of those who responded to the Main Survey between FY2011 and FY2014 (excluding those

Table 12. Number of eligible persons to the Follow-ups and the dates for sending questionnaire forms

Follow-up year	Coverage	No. of intended respondents	Date for sending questionnaires
FY2015	Respondents to the FY2011 survey	7,252	Sept. 11, 2015
FY2016	Respondents to the FY2012 survey	5,602	Nov. 21, 2016
FY2017	Respondents to the FY2013 survey	5,734	Jan. 12, 2018
FY2018	Respondents to the FY2014 survey	5,856	Jan. 11, 2019



who had miscarriages, abortions, or stillbirths), those who were confirmed to be alive along with their children through inquiries to the municipalities (Table 12).

**(2) Implementation method**

**A) Questionnaire: self-administered questionnaire (postcard)**

**B) Sending questionnaire forms:**

Questionnaire forms were sent at four years after childbirth (Table 12).

**C) Response method**

The questionnaires were sent to the respondents by post, with requests to return them by post. In addition, an online response system was introduced in FY2016 for the convenience of respondents.

**(3) Questionnaire items**

The questions in the Follow-up are as follows (Figure 17).

- Q1 Do you usually consider yourself healthy?
- Q2 Have you often felt down or depressed during the past month?
- Q3 During the past month, have you often felt uninterested in or unable to truly enjoy things?
- Q4 Do you sometimes feel unconfident about child rearing?
- Q5 Please check all the boxes that describe what you are worried about regarding the effects of radiation.
  - Water Food
  - Your child's outdoor activities
  - Your child's health Prejudice
  - Genetic effects Other



Figure 17. Postcard to invite participation in the Follow-up questionnaire

- Q6 Has your child ever had an illness that required hospitalization?
- Q7 Please check all the boxes that describe what you are anxious about regarding your child.
  - Mental and physical development
  - Illness Lifestyle Other

**(4) Data tabulation period**

The questionnaires were sent out on planned dates in each survey year, with no deadline for responses.

However, the data tabulation period for compiling survey reports and the period for accepting online responses were set as shown in Table 13.

Table 13. Data tabulation period and online response acceptance period in the Follow-ups

Follow-up year	Survey name	Data tabulation period (Online response acceptance period)
FY2015	Follow-up survey to the FY2011 survey (FY2011's Follow-up)	Sep. 14, 2015-May 31, 2016 (Online responding was not offered.)
FY2016	Follow-up survey to the FY2012 survey (FY2012's Follow-up)	Nov. 22, 2016-Jun. 30, 2017 (Nov. 22, 2016-Jun. 30, 2017)
FY2017	Follow-up survey to the FY2013 survey (FY2013's Follow-up)	Jan. 12, 2018-Aug. 31, 2018 (Jan. 12, 2018-Apr. 30, 2018)
FY2018	Follow-up survey to the FY2014 survey (FY2014's Follow-up)	Jan. 11, 2019-Aug. 31, 2019 (Jan. 11, 2019-Apr. 30, 2019)



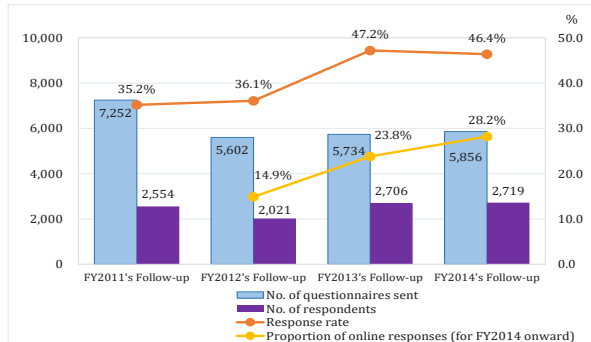


Figure 18. Number of the Follow-up questionnaires sent, number of responses, response rate, and proportion of online responses

Table 14. Proportion of respondents reporting poor subjective health in the Follow-ups to the FY2011-FY2014 surveys

Survey name	Proportion in the Follow-up	Proportion in the Main Survey (four years before)
FY2011's Follow-up	9.6%	This question was not included.
FY2012's Follow-up	9.3%	3.8%
FY2013's Follow-up	7.9%	3.7%
FY2014's Follow-up	7.9%	3.9%

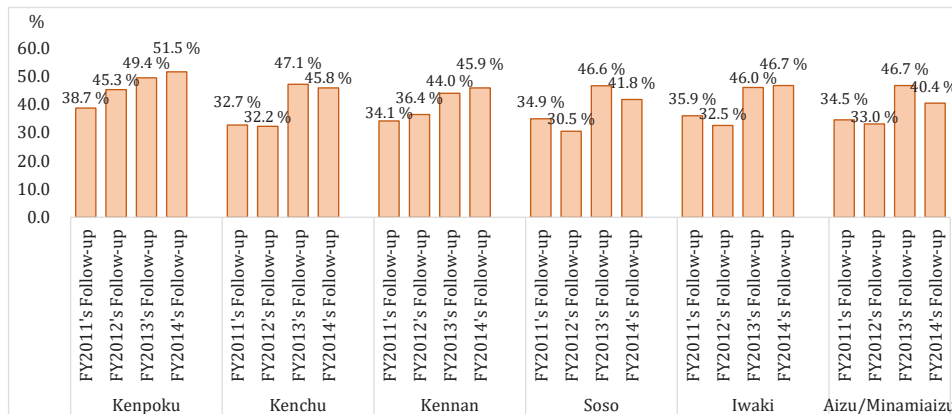


Figure 19. Response rate to the Follow-ups, by district

### 3) Survey results

#### (1) Number of questionnaires sent, number of responses, and response rate

The response rates to the Follow-ups were slightly lower than those to the Main Surveys, but are on an upward trend (Figure 18). The same is true by district, with the response rate to the two most recent Follow-ups being higher in all districts (Figure 19).

#### (2) Response Results

##### A) Mothers' mental health (subjective health and depressive tendencies)

The proportion of respondents with poor subjective health ("not very healthy" or "not healthy") tended to be higher overall in the Follow-ups than in the Main Surveys conducted four years before. However, the proportion of those with poor subjective health in the Follow-ups to the FY2013 and FY2014 surveys was lower than in the Follow-ups to the FY2011 and FY2012 surveys (Table 14).

In addition, the proportion of respondents

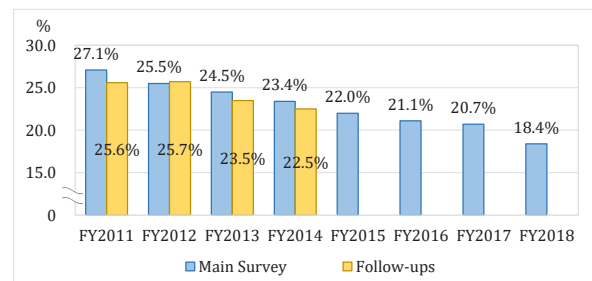


Figure 20. Proportion of respondents with depressive tendencies in the Follow-ups (compared to the Main Surveys conducted four years before)

identified as having depressive tendencies in the Follow-ups was generally lower than that in the Main Surveys conducted four years before, and the proportion has shown a decreasing trend over time (Figure 20).

##### B) Family and child rearing situation

The proportion of respondents who answered that they sometimes feel unconfident about child rearing was almost the same as in the Main Surveys conducted four years before (Table 15).

Table 15. Proportion of respondents who answered they sometimes feel unconfident about child rearing in the Follow-ups to the FY2011-FY2014 surveys

Survey name	Proportion in the Follow-up	Proportion in the Main Survey (four years before)
FY2011's Follow-up	15.8%	This question was not included.
FY2012's Follow-up	18.2%	15.4%
FY2013's Follow-up	16.7%	17.5%
FY2014's Follow-up	17.7%	16.6%

Reference: According to the 2010 national survey to assess toddlers' health status (conducted by the Japanese Society of Child Health), 23% of mothers with 4-year-old children responded that they "sometimes lose confidence."

Table 17. Proportion of respondents whose child had an illness that required hospitalization in the Follow-ups to the FY2011-FY2014 surveys

Survey name	Those whose child had an illness requiring hospitalization
FY2011's Follow-up	24.7%
FY2012's Follow-up	24.4%
FY2013's Follow-up	23.7%
FY2014's Follow-up	25.3%

Table 16. Proportion of respondents who checked boxes indicating their anxieties about radiation effects in the Follow-ups to the FY2011-FY2014 surveys

Survey name	Those who checked at least one of the boxes for anxieties about radiation effects	Those who checked the box for their "anxiety about the child's health"
FY2011's Follow-up	94.2%	79.5%
FY2012's Follow-up	90.9%	68.7%
FY2013's Follow-up	87.5%	66.3%
FY2014's Follow-up	85.4%	63.3%

Table 18. Proportion of respondents who checked the boxes for concerns about their children in the Follow-ups to the FY2011-FY2014 surveys

Survey name	Those who checked at least one box for concerns about their children	Those who checked the box for their "concern about the child's physical and psychological development"	Those who checked the box for their "concern about illnesses"
FY2011's Follow-up	70.8%	56.1%	57.6%
FY2012's Follow-up	66.9%	56.9%	45.5%
FY2013's Follow-up	61.2%	57.4%	40.4%
FY2014's Follow-up	63.4%	56.9%	38.7%

**C) Anxieties about radiation effects**

The proportion of respondents who checked boxes indicating their anxieties about radiation effects was 80-90%. Of these, the most common anxiety was about "child's health." However, the proportion of those having anxiety about radiation effects has been decreasing over time (Table 16). In the Follow-ups to the FY2011 survey, 41.2% of the respondents had anxiety about prejudice and discrimination, which is one of the answer choices in the question on the anxieties about radiation effects. In particular, anxiety for prejudice/discrimination was significantly related to mothers' age, whether they had depressive tendencies, whether they were able to

receive antenatal health checks on schedule, and whether they had any new illnesses/conditions after the disaster.<sup>16)</sup>

**D) Health conditions of and anxieties about newborns**

The proportion of respondents whose child had an illness that required hospitalization has been around 25% every year. The main illnesses diagnosed at the time of hospitalization were pneumonia, RS virus infection, and bronchitis (Table 17).

To the question on what their concerns are about their children, 60% to 70% of the respondents checked at least one box. Of these, "physical

Table 19. Number (proportion) of respondents who wrote free comments and contents of comments in the Follow-ups to the FY2011-FY2014 surveys

Survey name	Those who wrote free comments	1	2	3	4	5
FY2011's Follow-up	383 (15.0%)	Concerns about radiation effects on the fetus/child 53 (13.8%)	Support for this survey 47 (12.3%)	Opinions and complaints about this survey 44 (11.5%)	Request to disseminate radiation information and publicize survey results 37 (9.7%)	Request regarding the Thyroid Ultrasound Examination 23 (6.0%)
FY2012's Follow-up	186 (9.2%)	Support for this survey 33 (17.7%)	Opinions and complaints about this survey 24 (12.9%)	Concerns about radiation effects on the fetus/child 23 (12.4%)	Consultation on child rearing 17 (9.1%)	Request to enhance childcare support 14 (7.5%)
FY2013's Follow-up	208 (7.7%)	Support for this survey 36 (17.3%)	Opinions and complaints about this survey 25 (12.0%)	Concerns about radiation effects on the fetus/child 24 (11.5%)	Complaint of the mother's own mental instability 16 (7.7%)	Request to enhance childcare support 15 (7.5%)
FY2014's Follow-up	198 (7.3%)	Support for this survey 42 (21.2%)	Opinions and complaints about this survey 26 (13.1%)	Consultation on child rearing 17 (8.6%)	Concerns about radiation effects on the fetus/child 14 (7.1%)	Request to enhance childcare support 14 (7.1%)

The denominator of the percentages is the total number of respondents who wrote free comments.

and mental development" and "illness" were the most common specific concerns. The proportion of respondents who had concerns about "illness" shows a decreasing trend over the years (Table 18).

#### E) Content of free comments

The number and proportion of respondents who wrote in the free comment section were the highest in the Follow-up to the FY2011 survey, and has shown a decreasing trend since then. When the contents were categorized, the most common were "appreciation for this survey," "opinions and complaints about this survey," and "consultation on child rearing." "Concerns about radiation effects on the fetus/child" showed a decreasing trend over the years (Table 19).

### 4) Support for the Follow-up respondents

#### (1) Purpose of support

In order to alleviate anxieties among the respondents to the Follow-ups, midwives, public health

nurses, and other qualified support staff provide consultation and support via telephone or e-mail to respondents who were identified in need of consultation and support.

#### (2) Support recipients

Among the respondents to the Follow-ups, those who are identified as requiring telephone consultation and support were selected based on criteria (subsequently described).

#### (3) Selection criteria

Those who need childcare support, those who are concerned about radiation levels, those who complain about their physical condition, those who specifically request answers to their questions, and those who have requested support.

#### (4) Support method

Consultation and support are provided by phone or e-mail. For details, refer to the support method in the Main Surveys (See (4) Support method, page 174).

Table 20. Contents of consultation in the Follow-ups to the FY2011-FY2014 surveys Number (%)

Ranking	FY2011's Follow-up	FY2012's Follow-up	FY2013's Follow-up	FY2014's Follow-up
1	Mother's physical and mental state 129 (34.4%)	Mother's physical and mental state 115 (44.9%)	Mother's physical and mental state 118 (36.0%)	Mother's physical and mental state 78 (26.4%)
2	Concerns about radiation effects 96 (25.6%)	Child rearing-related (daily life) issues 59 (23.0%)	Child rearing-related (daily life) issues 91 (27.7%)	Child rearing-related (daily life) issues 36 (12.2%)
3	Child rearing-related (daily life) issues 81 (21.6%)	Child's physical and mental health 58 (22.7%)	Family life-related issues 48 (14.6%)	Family life-related issues 19 (6.4%)
No. of those deemed in need of support	375	256	328	296

Data entry method has been changed from FY2013's Follow-up and onward.  
 More than one topic may be talked about in one session.  
 The denominator of the percentages is the number of those judged in need of support.

Table 21. Reasons for ending telephone support in the Follow-ups to the FY2011- FY2014 surveys Number (%)

Survey name	1	2	3	Could not reach
FY2011's Follow-up	Listened carefully* <sup>1</sup> 197 (52.5%)	Provided information* <sup>2</sup> 105 (28.0%)	Confirmed consultation availability* <sup>3</sup> 29 (7.7%)	131 (34.9%)
FY2012's Follow-up	Listened carefully 159 (62.1%)	Provided information 53 (20.7%)	Confirmed consultation availability 26 (10.2%)	70 (27.3%)
FY2013's Follow-up	Listened carefully 245 (62.3%)	Provided information 133 (33.8%)	Confirmed consultation availability 66 (16.8%)	119 (30.3%)
FY2014's Follow-up	Listened carefully 229 (60.3%)	Provided information 90 (23.7%)	Confirmed consultation availability 55 (14.5%)	124 (32.6%)

\*1 Support ended after listening carefully and helping to sort out the mother's their problems  
 \*2 Support ended after providing information on relevant municipal departments and other useful information.  
 \*3 Support ended confirming that the mother has already seen a doctor or has someone to consult with.  
 • Multiple reasons may apply for one person. The denominator of the percentages is the total number of respondents deemed in need of support.

**(5) Support results**

**A) Support provided**

The Center's midwives, public health nurses, and other qualified support staff provide consultation and support via telephone and e-mail to those who were identified in need of consultation and support based on the contents of their questionnaire responses. The proportion of those identified in need of support based on their responses to depression-related questions is on a decreasing trend, as with the Main Surveys.

From the Follow-ups to the FY2013 survey and onward, those who describe specific concerns in sections other than the free comment

section were also included in potential support recipients.

**B) Contents of consultation**

In the Follow-ups, concerns about the respondent's own physical and mental condition have consistently ranked first from the beginning of the first Follow-up conducted in FY2015 to the one conducted in FY2018, and the proportion of "concerns about radiation effects" has decreased over the years (Table 20).

**C) Reasons for ending support**

The most common reasons for ending support

Table 22. Number of referrals to other organizations, etc. for respondents requiring support in the Follow-ups to the FY2011-FY2014 surveys

Survey name	Municipal department in charge of maternal and child health	FMU's Radiation Effects Consultation Desk	FMU's Mental Health Support Team	Specialists at FMU
FY2011's Follow-up	0	1	0	0
FY2012's Follow-up	0	0	0	0
FY2013's Follow-up	2	0	1	0
FY2014's Follow-up	0	0	3	0

were "listened carefully" (supporters listened carefully and helped to sort out the respondent's problems) and "provided information and referred to relevant municipal departments." The proportion of those whom we could not reach due to absence was about 30% (Table 21).

#### D) Referral to other organizations

If, based on the responses to the questionnaire, it is judged that there is an urgent need to connect the respondent to municipal resources, for reasons such as worsening of mental symptoms, childcare difficulties, neglect, abuse or domestic violence, referral will be made to relevant departments or organizations of the respondent's municipality, following the flow of referrals to other organizations (Table 22).

### 3. Publication of results, response methods, and feedback

- The latest survey results are published on the Center's website.
- Result reporting meetings to explain survey results were held in five districts in the prefecture (Kenpoku, Kennan, Soso, Aizu, and Iwaki) from FY2014 to FY2017.
- Since FY2015, we have been reporting results to the meetings of municipalities' public health nurses and other maternal and child health officials, organized by the prefecture
- In FY2019, we held briefing sessions with each of the 13 municipalities to report on the survey results of their residents.
- We prepared a leaflet to introduce the outline of the survey and what we learned from the results of the survey so far, sent it to all the eligible persons, enclosed with the questionnaire



Figure 21. How to answer the questionnaire online and an image of a questionnaire page on a smartphone



forms. We also distributed it to municipal offices, obstetrics and gynecology clinics and hospitals, and other related organizations.

- We displayed panels showing the results at public symposiums hosted by medical associations and at the "Iki Iki Kenko Zukuri (Live with Vitality) Forum" hosted by Fukushima Medical University's Health Promotion Center, and distributed leaflets.
- In order to improve the convenience of respondents, we introduced an online response system for the Main Survey in FY2016 (Figure 21). The combination of paper and online questionnaires contributed to improved response rates. While both methods have advantages for respondents, we found that paper questionnaire respondents were able to express more of their feelings and opinions.<sup>17)</sup>
- In cooperation with the municipalities, we conducted a questionnaire survey in FY2014 on the volume and content of the questionnaire, and utilized the results for its revision. We also ran notices inviting participation in the survey in municipal public relations publications.
- Since there is a question about the one-month-old health check, the questionnaire forms were sent out on three different occasions, based on the respondents' expected date of childbirth, starting from the 2014 survey, in order to match the timing of responses.
- We reviewed the questionnaire items and reduced questions in consideration of the burden on respondents.
- We sent out reminders and re-sent the questionnaire forms to encourage those who had not yet responded to the survey to participate.
- We conducted a survey on the status of responses to the FY2014 survey.
- We conducted a questionnaire survey to obtain opinions on the publication of the survey results. One municipality in each of the three areas of Hamadori, Nakadori, and Aizu was selected, and the questionnaire was distributed to approximately 100 mothers of children undergoing their 3-4 month old health check (approximately 30-40 mothers per municipality) at the health check venues.

## 4. Summary (significance of the survey)

### 1) Demonstrating the safety of pregnancy and childbirth in the prefecture

We clarified changes over time in the rates of preterm birth, low birth weight, and fetal malformations in the prefecture, and found these to be on par with national rates (references: Vital Statistics of Japan; Guideline for Gynecological Practice), thus demonstrating the safety of pregnancy and childbirth in the prefecture. Particular emphasis has been placed on providing telephone support to mothers with high depressive tendencies and worries about malformations, by informing them of survey results in the prefecture and conveying safety data about pregnancy and childbirth in the prefecture. We also published papers using the survey data and an interim report that summarized the main results from the papers published in the first four years.<sup>18)</sup>

### 2) Opportunities for watching over the health of pregnant and nursing mothers and providing support through the survey

Conducting the survey every year helped us watch over the health of pregnant and nursing mothers in the prefecture, as well as to understand the situation of each individual and provide specific support.

### 3) Implementation of interactive support

- Based on the survey results, our telephone support staff called those who were identified in need of support (including those who were unable to seek support on their own) to understand their current situations and provide support according to their needs. When we judged the mother would need a home visit, we liaised with the relevant department in the mother's municipality of residence.
- A dedicated telephone number and e-mail

account were set up to provide an environment that facilitates consultation, and a contact point for receiving consultation from the mothers.

#### 4) Cooperation with organizations involved in obstetrics, gynecology, and related disciplines, and establishment of support systems

- In addition to requesting cooperation in distributing the questionnaire forms, for those identified as needing specialized support, referrals were made to specialist doctors and related organizations, which led to continuous support.
- We visited the Fukushima Midwives Association and established a system to jointly provide support for the Main Survey respondents, as well as consultation about breastfeeding and for those who had stillbirths.
- Through the Fukushima Society of Obstetrics and Gynecology and the Fukushima Association of Obstetricians and Gynecologists, we communicated opinions and requests made on the questionnaire forms to each medical facility to promote cooperation.

#### 5) Close collaboration with municipalities

Based on the content of responses and telephone support, we shared information about those who needed urgent or continuous support with appropriate officials of the municipality in order to provide support in cooperation with the municipal officials.

#### 6) Information sharing on the current status of and issues related to maternal and child health (with the prefecture, municipalities, and related organizations)

- Since FY 2013, medical doctors have provided explanations at result reporting meetings for public health nurses, nurses, and related organizations in Fukushima Prefecture and at meetings of municipalities' maternal and child health officials, organized by the prefecture. In the FY2017 Main Survey, we held briefing sessions with each of the 13 municipalities designated as the evacuation zone to discuss the situation in each municipality, exchange opinions and share information.
- In response to requests from the municipalities, the survey results for each municipality were provided.



Figure 22. Excerpts from the Physical and Mental Health Support Booklet



Figure 23. Excerpts from the leaflet enclosed with the questionnaire

### 7) Response to anxieties about radiation

- From the start of the Main Surveys conducted from FY2011 to FY2013, we prepared a Physical and Mental Health Support Booklet for children and their parents and mailed it to the eligible persons (Figure 22). In addition, from FY2012, the book was enclosed when the questionnaire forms were sent out so that information could be directly conveyed to parents/guardians who had anxieties about radiation.
- For the Main Surveys and Follow-ups since FY2014, we have prepared a leaflet that introduces the outline of the survey and what we have learned from the survey results so far, and sent it with the questionnaire forms (Figure 23). The leaflets were also distributed to cooperating medical facilities and related organizations in the prefecture to promote the survey.

### 8) Support for supporters

In order to further improve the quality of supporters and respond to the anxieties and questions they might encounter during support, we held information exchange meetings to share specialized knowledge and examine cases, and educational seminars about radiation, thyroid, and related matters, to properly respond to a wide range of consultations, etc. (Table 23).

### 9) Noteworthy achievements

- Despite some criticism of the survey, the response rate remained high, and there were some comments of appreciation and encouragement. This seems to reflect some of our efforts, such as simplifying questions, introducing an online response system, including a large free comment section from the first year of the survey, and providing support by telephone and e-mail.
- As for pregnancy outcomes, we disclosed that the numbers of stillbirths, preterm births, low birth weight babies, and congenital anomalies were on par with averages throughout Japan.
- By going to various parts of the prefecture and explaining the survey results face-to-face with municipal officials, we were able to increase interest in the survey and facilitate support in cooperation with the municipalities. Participating municipalities' maternal and child health officials commented that "it was helpful to understand the current situation in Fukushima Prefecture" and "the responses to childcare consultations can be used in subsequent telephone consultations, health checks, and home visits."

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Table 23. Number of information exchange meetings held and contents of seminars for telephone support staff

	Number of information exchange meetings	Number and content of seminars for telephone support providers
FY2012	6 meetings	2 meetings <ul style="list-style-type: none"> <li>• Basic knowledge about radiation</li> <li>• Countermeasures for radiation exposure implemented in the prefecture</li> </ul>
FY2013	1 meeting	1 meeting <ul style="list-style-type: none"> <li>• Depression and PTSD</li> </ul>
FY2014	4 meetings	5 meetings <ul style="list-style-type: none"> <li>• Prefecture's emergency support program for nursery schools, etc. to develop counseling and support skills (Knowledge about radiation and child growth/development)</li> <li>• Fatigue in support providers in Fukushima</li> <li>• Understanding PTSD</li> <li>• Sleep problems and medicines</li> <li>• Active listening</li> </ul>
FY2015	1 meeting	4 meetings <ul style="list-style-type: none"> <li>• Roadmap to provide psychological care for parents and children at the time of a disaster</li> <li>• Life condition of disaster victims in Fukushima and problems related to compensation schemes</li> <li>• Crisis intervention</li> <li>• How to keep records of support</li> </ul>
FY2016	4 meetings	1 meeting <ul style="list-style-type: none"> <li>• Mental health of support providers</li> </ul>
FY2017	2 meetings	5 meetings <ul style="list-style-type: none"> <li>• Guidance on the "Handbook for Living (in Fukushima)" and how to communicate with residents</li> <li>• How to respond to complaints</li> <li>• Field trip to Fukushima Daiichi Nuclear Power Plant</li> <li>• Nuclear accident and mental health care</li> <li>• Psychological education program to prevent traumatic stress from becoming chronic and more serious.</li> </ul>
FY2018	1 meeting	8 meetings <ul style="list-style-type: none"> <li>• Workshop for senior public personnel in charge of maternal and child health service</li> <li>• Workshop on stress care for support providers</li> <li>• Mental health of support providers</li> <li>• Power of dialogue: understanding the Open Dialogue approach</li> <li>• Skin care for babies and toddlers</li> <li>• Outline of the Fukushima Daiichi Nuclear Power Plant accident and revitalization of Fukushima</li> <li>• Mental health first aid</li> <li>• Grief care</li> </ul>

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