

"We will promote the health of pregnant women in Fukushima Prefecture."

The Pregnancy and Birth Survey was commenced in order to ascertain mental and physical health conditions of pregnant women in Fukushima Prefecture after the Great East Japan Earthquake and the subsequent accident at TEPCO's Fukushima Daiichi NPS, with the aim of alleviating their anxieties and providing necessary care.

Prepared based on the website of the Radiation Medical Science Center for the Fukushima Health Management Survey, Fukushima Medical University (information on the Pregnancy and Birth Survey)

Fukushima Prefecture has been conducting the Pregnancy and Birth Survey in order to ascertain mental and physical health conditions of pregnant women in the prefecture after the Great East Japan Earthquake and the subsequent accident at Tokyo Electric Power Company (TEPCO)'s Fukushima Daiichi NPS, with the aim of alleviating their anxieties and providing necessary care, and also improving obstetric and gynecological care in Fukushima Prefecture.

Included in this reference material on March 31, 2013

Updated on March 31, 2020

[Eligible subjects]

Pregnant women who obtained a maternity handbook within Fukushima Prefecture and those who obtained a maternity handbook somewhere else but gave birth in the prefecture during the survey period for every fiscal year

Fiscal year	Eligible subjects	Responses from
FY2011	16,001 people	9,316 people (58.2%)
FY2012	14,516 people	7,181 people (49.5%)
FY2013	15,218 people	7,260 people (47.7%)
FY2014	15,125 people	7,132 people (47.2%)
FY2015	14,572 people	7,031 people (48.3%)
FY2016	14,154 people	7,326 people (51.8%)
FY2017	13,552 people	6,449 people (47.6%)
FY2018	12,838 people	6,649 people (51.8%)

Eligible subjects	Responses from
7,252 people	2,554 people (35.2%)
5,602 people	2,021 people (36.1%)
5,734 people	2,706 people (47.2%)
5,856 people	2,719 people (46.4%)

Conducted a follow-up survey in approx. 4 years after delivery

[Survey method]

Inquiry sheets are sent to the targeted pregnant women, asking them to fill in the sheets and send them back.

(From the FY2016 survey, responses are accepted by post or online.)

Major survey items are as follows:

- Pregnant women's mental health conditions
- Present living conditions (circumstances of a refugee life or forced separation from family members)
- Situations during delivery and pregnant women's physical health conditions
- Confidence in raising children
- Attitude toward the next pregnancy

Prepared based on the website of the Radiation Medical Science Center for the Fukushima Health Management Survey, Fukushima Medical University and the materials for the 37th Prefectural Oversight Committee Meetings for Fukushima Health Management Survey

The Pregnancy and Birth Survey covers pregnant women who newly obtained a maternity handbook in Fukushima Prefecture and those who obtained a maternity handbook elsewhere but gave birth in the prefecture during the survey period.

For the former, inquiry sheets are sent based on information provided by each municipality in the prefecture. The latter may use inquiry sheets available at obstetric institutions in the prefecture or request the Radiation Medical Science Center for the Fukushima Health Management Survey, Fukushima Medical University, to send them inquiry sheets.

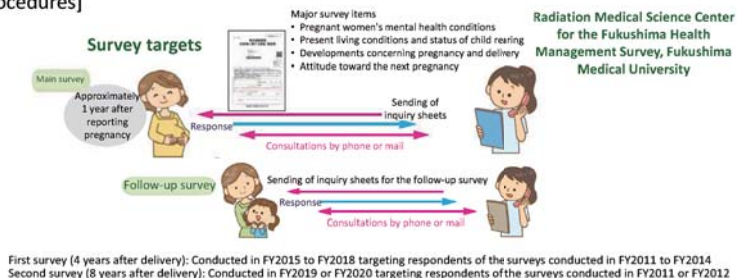
Survey targets are asked to fill in inquiry sheets and send them back. From the FY2016 survey, responses can also be submitted online.

The number of women who become pregnant and give birth in Fukushima Prefecture decreased after the earthquake in FY2012 but temporarily increased in FY2013. However, the number has been on a decline thereafter as seen nationwide.

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[Survey procedures]



[FY2020 Pregnancy and Birth Survey] Since the FY2016 survey, responses can be submitted online.

- Main survey
 - (i) Pregnant women who obtained a maternity handbook in any municipality in Fukushima Prefecture from August 1, 2019, to July 31, 2020
 - (ii) Pregnant women who obtained a maternity handbook outside Fukushima Prefecture during the period mentioned above but gave birth in Fukushima Prefecture
- Second follow-up survey
FY2012 survey respondents

Prepared based on the leaflet on the Pregnancy and Birth Survey, and the website of the Radiation Medical Science Center for the Fukushima Health Management Survey, Fukushima Medical University

Details of the responses are compiled by the Radiation Medical Science Center for the Fukushima Health Management Survey, Fukushima Medical University, to detect people considered to be in need of support.*¹ If there are any people who are considered to be in need of support, midwives, public health nurses, doctors or other specialized staff members offer consultations or other support to such people by mail or by other means.

Since January 2020, the second follow-up survey to ask about mental and physical health conditions has been conducted, targeting FY2011 survey respondents who gave birth 8 years ago.

*1: Respondents who replied that they tend to feel depressed and that they are not interested in things, or respondents who are considered to be in need of support based on the content of their free remarks (such as those who are in need of help, who are severely depressed, who need support for child rearing, who are worried about radiation doses, or who directly made requests or are requiring concrete answers)

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Pregnancy and Birth Survey: Achievement and Content of Support

[Changes in coverage]

Out of all respondents, for those who were judged to be in need of support from the content of their responses, support has been offered by full-time midwives, etc. by phone or mail.

Fiscal year	Number of people who received support by phone	Percentage of those who received support among all respondents	Number of people who received support by phone	Percentage of those who received support among all respondents
FY2011	1,401 people	15.0%	Survey following up the FY2011 survey 375 people	14.7%
FY2012	1,104 people	15.4%	Survey following up the FY2012 survey 256 people	12.7%
FY2013	1,101 people	15.2%	Survey following up the FY2013 survey 393 people	14.5%
FY2014	830 people	11.6%	Survey following up the FY2014 survey 380 people	14.0%
FY2015	913 people	13.0%		
FY2016	951 people	13.0%		
FY2017	799 people	12.4%		
FY2018	711 people	10.7%		

[Topics of the consultations by phone]

	Main survey					Follow-up survey		
	FY2011	FY2012	FY2013	FY2014 to FY2017 (the same ranking for both years)	FY2018	FY2015 FY2011 survey respondents	FY2016 FY2012 survey respondents	FY2017 to FY2018 FY2013-2014 survey respondents
1st	Worries over radiation and its effects	Mothers' mental and physical health	Mothers' mental and physical health	Mothers' mental and physical health	Mothers' mental and physical health	Mothers' mental and physical health	Mothers' mental and physical health	Mothers' mental and physical health
2nd	Mothers' mental and physical health	Matters concerning child rearing	Matters concerning child rearing	Matters concerning child rearing	Matters concerning child rearing	Worries over radiation and its effects	Matters concerning child rearing	Matters concerning child rearing
3rd	Matters concerning child rearing	Worries over radiation and its effects	Children's mental and physical health	Matters concerning family life	Children's mental and physical health	Matters concerning child rearing	Children's mental and physical health	Matters concerning family life

Matters concerning child rearing include concerns about baby food, night crying, constipation, vaccination, etc. Prepared based on the material for the 37th Prefectural Oversight Committee Meeting for Fukushima Health Management Survey

Immediately after the earthquake, the most frequent topic was worries over radiation and its effects, but the percentage of such consultations is declining over time. Since FY2012, consultations on mothers' mental and physical health and matters concerning child rearing have increased and now rank high.

Regarding the follow-up survey in FY2012, those who required support accounted for 12.7% of all respondents, showing a decrease from the percentage of the follow-up survey in FY2011 (14.7%). From the follow-up surveys in FY2013 onward, support was expanded to cover those considered to be in need of support based on the content of their free comments. Accordingly, the percentage requiring support increased from that in FY2012.

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[Percentages of premature births, low birth-weight babies, and congenital abnormalities or anomalies]

Percentages of premature births, low birth-weight babies, and congenital abnormalities or anomalies obtained through the Pregnancy and Birth Survey were almost the same as the general level and those obtained through nationwide surveys.

	Percentage of premature births (%)		Percentage of low birth-weight babies (%)		Percentage of congenital abnormalities or anomalies (%)	
	Main survey*	Nationwide survey	Main survey*	Nationwide survey	Main survey	General level
FY2011	4.6	5.7	8.6	9.6	2.85	3 to 5 (based on the 2020 Obstetric Care Guidelines)
FY2012	5.6	5.7	9.2	9.6	2.39	
FY2013	5.2	5.8	9.6	9.6	2.35	
FY2014	5.3	5.7	9.8	9.5	2.30	
FY2015	5.6	5.6	9.4	9.5	2.24	
FY2016	5.3	5.6	9.2	9.4	2.55	
FY2017	5.3	5.7	9.2	9.4	2.38	
FY2018	5.2	5.6	9.0	9.4	2.19	

* As percentages are retabulated by excluding cases of dead births, values differ from those in the reports on the surveys in FY2011 to FY2018.
Premature births: Babies born at a gestational age from 22 weeks to less than 37 weeks Low birth-weight babies: Babies born smaller than 2500g
Nationwide surveys: Annual percentages based on the Vital Statistics

Prepared based on the material for the 37th Prefectural Oversight Committee Meeting for Fukushima Health Management Survey

Radiation effects on newborn babies had been worried about, but percentages of premature births, low birth-weight babies, and congenital abnormalities or anomalies in Fukushima Prefecture after the earthquake were found to be almost the same as generally available data, including Vital Statistics collected nationally.

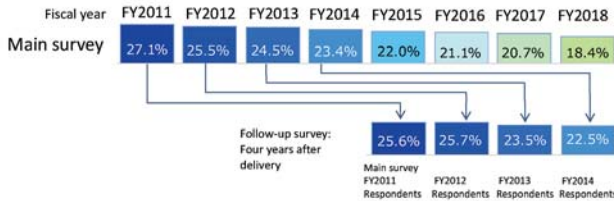
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[Changes in pregnant women's depressive tendencies]

The percentage of respondents who replied that they tend to feel depressed and/or that they are not interested in things

Pregnant women's depressive tendencies have been decreasing gradually.



[Changes in percentage of respondents who answered "Yes" to the question "Are you considering another pregnancy?"]

Nationwide survey		Main survey						
FY2010	FY2015	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
51.0%	50.0%	52.9%	52.8%	57.1%	53.3%	54.6%	52.4%	52.2%

Nationwide survey 2010 : Percentage of respondents who are married for less than 10 years and plan to have a child in the nationwide survey, "Fourteenth Japanese National Fertility Survey in 2010" (when having any children already)
 Nationwide survey 2015 : Percentage of respondents who are married for less than 10 years and plan to have a child in the nationwide survey, "fifteenth Japanese National Fertility Survey in 2015" (when having any children already)

* The 2011 survey did not contain the relevant question.

Prepared based on the material for the 37th Prefectural Oversight Committee Meeting for Fukushima Health Management Survey

For questions concerning pregnant women's depressive tendencies, respondents who replied that they tend to feel depressed and/or that they are not interested in things have been decreasing.

According to the "Healthy Parents and Children 21" (a national campaign to promote improvement of health standards of mothers and children), the percentage of postnatal depression evaluated using the Edinburgh Postnatal Depression Scale was 8.4% in FY2013 and 9.8% in FY2017 nationwide. The percentage estimated from the results of the FY2018 Pregnancy and Birth Survey was 10.2% (reference used for the calculation: Mishina H, et al. *Pediatr Int.* 2009; 51: 48).

The FY2018 Pregnancy and Birth Survey also revealed that respondents considering another pregnancy accounted for 52.2%. Since the FY2012 survey, more than half of the respondents wish to have more children. For reference, respondents who have been married for less than ten years and plan to have a child accounted for 60% (or 51% among those who already have any children) in the Fourteenth Japanese National Fertility Survey in 2010 and 57% (or 50% among those who already have any children) in the Fifteenth Japanese National Fertility Survey in 2015.

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