

Concerns and associated factors of cancer patients who have children: A retrospective observational study of initial telephone consultations

Yuko Akagawa,¹ Hiroyuki Sato,² Kaori Osawa,³ Miho Inoue,⁴ Hideaki Andoh^{1,5}

¹ Department of Nursing, Akita University Graduate School of Health Sciences, Japan

² Department of Nursing Management, Akita University Hospital, Japan

⁴ Shikoku Cancer Center, National Hospital Organization, Japan

*E-mail: abe0204@hs.akita-u.ac.jp)

³ Cancer Consultation Support Center, Tokyo Kyosai Hospital, Japan,

⁵ Center of Palliative Care, Akita University Hospital, Japan

Background & Aim

Cancer patients who have children often struggle with balancing treatment and parental responsibilities, experiencing guilt and stress. [This study, the first of its kind in Japan, explores parental concerns and associated factors based on telephone consultations with cancer patients in Akita.](#)

Methods

Study design: A retrospective observational study

Subjects: Initial telephone consultations in Akita CLIMB program

Survey period: May 2017 to February 2024

Survey: **Characteristics** (gender, current position, age, and cancer experience, etc.), **Parental concerns.**

Analysis: Parental concerns were categorized into six themes through qualitative and descriptive analysis. Univariate analysis and multivariate analyses were performed to examine factors associated with each concern. The following variables were used in the univariate analysis: age group, age, stomach cancer, uterine and cervical cancer, uterine cancer, cervical cancer, colon cancer, breast cancer, lung cancer, pancreatic cancer, stage, surgery, chemotherapy, palliative care, time elapsed from diagnosis to consultation, number of children, school age, and communication to children. Multivariate analysis was performed using JMP®13.0 (SAS Institute) statistical software.

【Cancer incidence rate was higher than national average rate】

The number of 30~50's cancer incidence rate per 100,000 people in Akita is 105.0~762.1.

* National average: 78.3-682.5



Results

Table 1. Participant characteristics N = 388

Item	Contents	Number of individuals (%)	Average ± SD
Sex	Female	337 (86.9)	
	Male	51 (13.1)	
Age			38.8 ± 6.0
Cancer type	Breast	270 (69.6)	
	Colon	36 (9.3)	
	Uterine	42 (10.8)	
	Pancreatic	17 (4.4)	
	Stomach	15 (3.8)	
Stage	Lung	8 (2.1)	
	II	148 (38.1)	
	III	128 (33.0)	
	I	71 (18.3)	
Treatment	Terminal	19 (4.9)	
	Unkown	22 (5.7)	
	Surgical	247 (63.7)	
	Surgical&Chemo	121 (31.2)	
Child	Palliative Care	19 (4.9)	
	Chemotherapy	1 (0.2)	
Children's age	One	139 (35.8)	
	More than one	249 (64.2)	
			8.5 ± 2.6

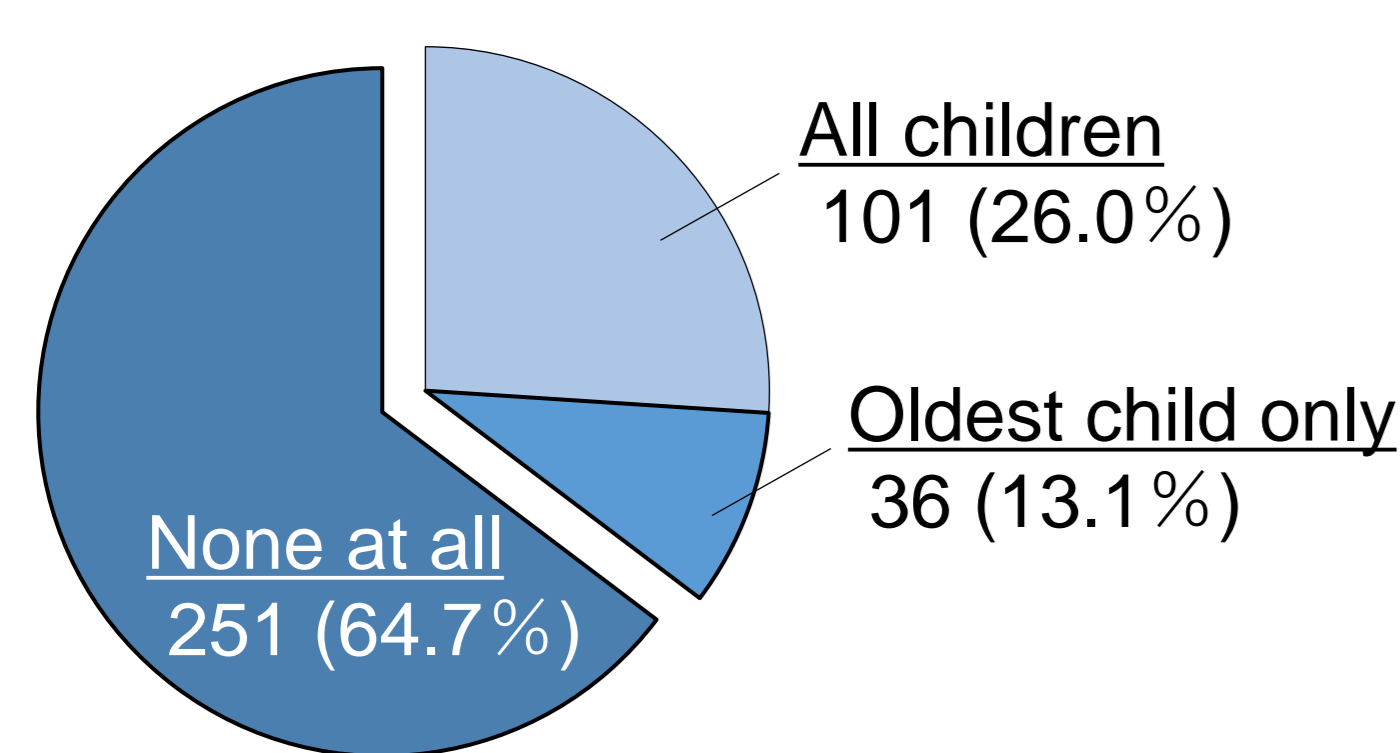


Fig.1 Whether parents told their children about their cancer N=222

Reasons for not telling children about cancer

These are the top three reasons

- Afraid of the child's reaction and unable to handle it : 111 (50.0%)
- Believe the child would not understand : 55 (24.8%)
- Unsure of the appropriate timing to explain : 48 (21.6%)

Discussion

Concerns Regarding Follow-up After Informing Children About Cancer Diagnosis by Cancer Type

Patients with uterine and cervical cancer exhibited higher concerns regarding follow-up after informing their children about their cancer diagnosis. This suggests that factors specific to the nature of the disease may influence parents' worries. The impact of the treatment process and symptoms on the daily lives of the family is likely related to these concerns.

Impact of Time Since Diagnosis on Family Disclosure

Patients who were 6 to 11 months post-diagnosis were more likely to have made decisions about disclosing their cancer to their family compared to those who were less than one-month post-diagnosis. The passage of time appears to affect the psychological readiness of patients and their ability to consider when and how to communicate with their family.

Differences in Concerns Based on Child's Developmental Stage

Parents with children in junior high school showed a significantly higher level of concern about the potential negative impacts on their child compared to parents with preschool-aged children. This may be due to the heightened sensitivity and potential behavioral impacts associated with children in adolescence, a developmental stage marked by increased emotional awareness.

Impact of Number of Children on Cancer Disclosure

The number of children in the family was found to influence the method of cancer disclosure. Families with multiple children may require more complex communication strategies to ensure information is shared effectively and to coordinate support among siblings.

Conclusion

Cancer patients raising children face various challenges in communicating with their children. Factors such as the type of cancer, the age and number of children, and the time elapsed since diagnosis were found to significantly influence their concerns. Moving forward, it is essential to provide tailored support based on the individual circumstances of patients to promote more effective family communication.

Table 2. Concerns and associated factors of cancer patients who have children

	Univariate analysis				Multivariate analysis		
	OR	95% CI	P	OR	95% CI	P	
Model A: Follow-up after informing the child of the cancer diagnosis							
Uterine and cervical cancer	2.50	1.17 , 5.34	0.02	2.50	1.17 , 5.34	0.02	
Breast cancer	0.49	0.27 , 0.88	0.02	n.e.			
Model B: Whether or not to tell family about cancer							
Time elapsed from diagnosis to consultation							
<1 month	1.00			1.00			
1-3 months	0.47	0.13 , 1.67	0.24	0.40	0.11 , 1.44	0.16	
4-5 months	0.71	0.29 , 1.74	0.45	0.72	0.29 , 1.79	0.47	
6-11 months	0.29	0.07 , 1.15	0.08	0.21	0.05 , 0.86	0.03	
1-2 years	0.48	0.20 , 1.15	0.10	0.44	0.18 , 1.06	0.07	
2-3 years	1.65	0.41 , 6.65	0.48	1.47	0.36 , 6.04	0.59	
Model C: Concerns about negative impacts on my child							
number of children	1.98	1.17 , 3.37	0.01	n.e.			
school age							
preschool	1.000			1.00			
elementary school lower grades	1.34	0.32 , 5.65	0.69	1.34	0.32 , 5.65	0.69	
elementary school middle grades	1.96	0.56 , 6.90	0.29	1.96	0.56 , 6.90	0.29	
elementary school upper grades	2.90	0.76 , 11.00	0.11	2.90	0.76 , 11.00	0.12	
junior high school	10.71	2.08 , 55.12	0.01	10.7	2.08 , 55.12	0.01	
high school	n.c.			n.c.			
Model D: Specific approaches for telling my child about my cancer							
<1 month	1.00						
1-3 months	1.15	0.46 , 2.88	0.77				
4-5 months	1.23	0.59 , 2.57	0.58				
6-11 months	1.35	0.56 , 3.27	0.50				
1-2 years	1.05	0.53 , 2.09	0.89				
2-3 years	1.61	0.44 , 5.88	0.47				
3-4 years	2.01	0.70 , 5.78	0.19				
5-10 years	1.50	0.54 , 4.14	0.44				
number of children	0.70	0.48 , 1.01	0.06	0.62	0.42 , 0.91	0.02	
Model E: Worries about my child's emotional response							
stomach cancer	3.99	1.05 , 15.18	0.04	4.30	1.12 , 16.47	0.03	
uterine cancer	4.42	0.87 , 22.51	0.07	4.91	0.96 , 25.20	0.06	
Model F: Communication with my child about end-of-life matters							
colon cancer	5.24	1.25 , 21.93	0.02	5.24	1.25 , 21.93	0.02	
breast cancer	0.21	0.05 , 0.85	0.03	n.e.			
number of children	3.11	1.09 , 8.86	0.03	n.e.			

OR, odds ratio; 95% CI, 95% confidence interval; OV, objective variable; n.c., not calculable; n.e., not entered.

In models A, C, and F, multivariate analysis (forward selection: likelihood ratio) were performed using variables that were significant in the univariate analyses.

In models B, D, and E, multivariate analysis (backward selection: likelihood ratio) were performed using variables with P<0.2 in univariate analysis.