

Sick Child Care-related Needs According to the Type of Household -Single-Mother Households and Double-income Nuclear Families

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Abstract

Background: Sick child care is a form of nursing care provided temporarily by nursery staff and nurses for sick children when they cannot be cared for by their parents, for reasons such as having to work. To facilitate sick child care according to the type of household, we investigated single-mother households and double-income nuclear families, and clarified their usage of such care and relevant needs.

Methods: The study subjects comprised 14 single mothers, and 131 individuals from double-income nuclear families. We investigated their usage of sick child care, perceived benefits of such care, and care-related requests.

Results: For both types of family, the mean age of care service users was less than 3 years, and most of them had infectious diseases. In the single-mother group, more than 50% of the subjects were non-regular employees. Compared with the double-income group, the single-mother group showed significantly higher percentages of people with a low income and those using the systems for reducing care fees ($P < 0.0001$, $P < 0.0243$). The latter group also exhibited a higher percentage of individuals with anxiety due to the possibility of their dismissal from work caused by taking time off ($P = 0.0238$). Furthermore, a higher percentage of single mothers than those from double-income households considered sick child care-related guidance to be beneficial ($P < 0.021$).

Conclusion: The results of this study suggest that those systems support these women for job security and child raising. The systems for reducing care fees will have no significance if sick child care is inaccessible due to reaching the maximum capacity of children, and individuals without access to such care may suffer from job insecurity and/or insufficient child raising support. Hence, there is a need to increase the number of children who can be accepted by care facilities.

Introduction

Sick child care is a form of nursing care provided by nursery staff and nurses for sick children when they cannot be cared for by their parents, for reasons such as having to work [1]. Such care is essential in order for parents of care users to manage child raising and work, and most of these parents view this type of care as helpful in child raising [2].

Sick child care users are mainly from double-income or single-mother households [3]. Of all households in Japan (48.17 million), those consisting of a married couple living with their unmarried children account for the largest percentage (30.5%) [4]. However, single-parent households now number approximately 784,000 (1.6%), and this number is showing a tendency to increase. The average monthly salary of households comprising single mothers living with unmarried children aged <18 years is 199,241 yen. This number is 44.1% of the average monthly salary earned by households comprising a married couple living with 2 children, in which only one parent works, and 36.7% of that earned by double-income households [5]. In addition, single mothers are most commonly in part-time positions (47.4%) [6]. Because single mothers are usually non-regular employees with a low income, it may be difficult for them to take time off from work when their children become sick. Such individuals need sick child care.

Furthermore, sick child care aims to meet all needs of sick children [7]. Children's health should not be impaired because of their social backgrounds, such as the incomes of their parents. Against this background, to facilitate sick child care according to the type of household, we investigated single-mother households and double-income nuclear families, and clarified their usage of such

care and relevant needs [8].

Methods

Cross-sectional study

The study subjects comprised individuals whose children had used any of the 11 nurseries for sick children in city A between mid-October and mid-November 2014. These parents consented to participate in the study.

We investigated: 1) the subjects' demographic variables (age, type of household, employment situation, and monthly disposable household income), 2) their usage of sick child care (age and diseases of their children, the number of days using care services, as well as the costs of and reasons for using such services), and 3) whether or not they had ever been unable to use sick child care, as well as actions taken in such circumstances. In addition, in city A, as care fees are reduced for families receiving welfare support, those exempt from municipal tax, and those exempt from income taxes, we investigated whether or not the subjects were using the systems for reducing care fees. We used 15 items regarding the benefits of sick child care, and 13 items regarding

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care-related requests. Each of these items had 4-point Likert scale.

We provided the managers of the 11 above-mentioned nurseries with a full explanation of the present study in written and oral forms, and obtained their written consent. Staff members of these nurseries then distributed the following documents to service users' parents: an explanation form describing the purpose of the study, methods, and ethical considerations; a questionnaire; and self-addressed envelopes. Next, to calculate the response rate, we asked each investigated facility to count the number of questionnaires completed in the facility. A response to the questionnaire was interpreted as having consented to participate in the study.

The study was conducted with the approval of the ethical committee to which we belonged (26-14).

For statistical analysis, we used SAS9.2. Categorical data were analyzed using Fisher's exact test, and quantitative data were analyzed using the Wilcoxon rank sum test or Wilcoxon signed-rank test.

Results

Subjects

We distributed a questionnaire to 408 individuals whose children had used any of the 11 nurseries for sick children in city A, and collected

completed questionnaires from 156 of these parents (response rate: 38.24%). Households comprising a mother and her children, as well as those comprising a mother, her parents, and her children, were classified into a single-mother group (n=14). Households comprising a double-income couples living with their children were classified into a double-income nuclear family group (n=131). In the latter group, 83 mothers (66.94%) were in full-time positions (Table 1). In the former group, all individuals were working, and 8 (57.14%) were in part-time positions. In both groups, more than 50% of the subjects worked on weekends. The monthly disposable household income was significantly lower for the single-mother group (<200,000 yen for 8 individuals [57.14%]) than the double-income group (≥400,000 yen for 63 individuals [50%]) (P<0.0001).

Usage of sick child care

Both the single-mother and double-income nuclear family groups used sick child care for approximately 2 days at any one time, for longer than 8 hours per day, at least 4 times a year (Table 2). The percentage of those using the systems for reducing such fees was significantly higher for the former (42.86% [n=6]) than latter (6.11% [n=8]) group (P=0.0243).

In both groups, the mean age of care service users was less than 3 years, and most of them had infectious diseases. In addition, in

Indices	Items	Double-income nuclearfamily		Single-mother		P-value
		n=131		n=14		
		n	%	n	%	
Age range ^a	20s	17	12.98	5	35.71	0.0637
	30s	87	66.41	5	35.71	
	40s	26	19.85	4	28.57	
	50s	1	0.76	0	0	
Type of household ^a	Parents and their children (double income)	131	100	0	0	<0.0001
	Mother and children	0	0	10	71.43	
	Grandparents, mother, and children	0	0	4	28.57	
Mother's employment status ^a	Full-time worker	83	66.94	5	35.71	0.1213
	Dispatched employee	3	2.42	1	7.14	
	Part-time worker	34	27.42	8	57.14	
	Executive officer	1	0.81	0	0	
	Self-employed business	1	0.81	0	0	
	Others	2	1.61	0	0	
Work hours/day ^b	(Mean, SD)	8.21	1.59	8.58	1.04	0.5748
Working on weekends ^a		71	54.20	10	71.43	0.2661
Working at night ^a		7	5.34	0	0	1
Monthly disposable income (Yen) ^b	≥100,000 to <150,000	1	0.79	2	14.29	<0.0001
	≥150,000 to <200,000	6	4.76	6	42.86	
	≥200,000 to <250,000	7	5.56	0	0	
	≥250,000 to <300,000	7	5.56	4	28.57	
	≥300,000 to <350,000	21	16.67	0	0	
	≥350,000 to <400,000	21	16.67	0	0	
	≥400,000	63	50	2	14.29	

Table 1: Demographic variables N=145.

Due to missing values, the total number does not represent the total percentage for some items.

a: Fisher's exact test, b: Wilcoxon rank sum test

Indices	Items	Double-income nuclear family		Single Mother		P-value
		n=131		n=41		
		n	%	n	%	
Utilization days/time ^a	(Mean,SD)	2.05	2.22	1.81	1.44	0.5517
Utilization hours/day ^a	(Mean,SD)	8.41	1.60	8.86	0.89	0.6019
Utilization times/last year ^a	(Mean,SD)	4.36	4.39	4.62	3.06	0.4168
Fees of one day(Yen) ^a	0 ^c	0	0	5	35.71	0.0243
	500 ^c	0	0	1	7.14	
	1000 ^c	2	1.53	0	0	
	1500 ^c	6	4.58	0	0	
	2000 ^d	103	78.63	5	35.71	
	2500 ^d	19	14.5	3	21.43	
	2800 ^d	1	0.76	0	0	
Age (Years old) ^a	(Mean, SD)	2.48	1.8	2.71	1.73	0.4921
Gender ^b	Boy	78	57.35	9	64.29	0.7783
	Girl	58	42.65	5	35.71	
Diseases ^b	Cold	76	58.46	6	46.15	0.2718
	Bronchitis or pneumonia	12	9.23	1	7.69	
	Middle-ear infection	7	5.38	1	7.69	
	Chickenpox	7	5.38	0	0	
	Mumps	6	4.62	0	0	
	Conjunctivitis	5	3.85	2	15.38	
	Vomiting and diarrhea	4	3.08	0	0	
	Hemolytic streptococcal infection	3	2.31	0	0	
	Hand, foot and mouth disease	3	2.31	0	0	
	Asthma	2	1.54	1	7.69	
	Others	5	3.85	2	15.38	
Reasons for using sick child care ^b	I have no nearby relatives to look after my child.	78	60.47	10	71.43	0.5667
	I could have taken paid leave, but I was reluctant to do so.	72	55.81	6	42.86	
	I cannot bring my child to my workplace.	69	53.49	8	57.14	
	No one at my workplace was able to do my work for me.	47	35.88	5	35.71	
	I had work that had to be done on that day.	45	34.88	7	50	
	I was unable to take time off from work.	44	33.59	5	35.71	
	I thought that it was better to leave my child in a facility specializing in caring for sick children.	22	16.79	4	28.57	
	I work on a part-time basis, and so my salary will be reduced if I take time off work.	16	12.21	4	28.57	
	My relatives were unable to look after my child, for reasons such as a disease or work.	18	13.74	4	28.57	
	I am concerned that I may be dismissed from work if I take time off.	9	6.87	4	28.57	
	I had no choice but to use sick child care for a reason other than work.	3	2.29	1	7.14	
I was sick.	1	0.76	0	0	1	
Others	5	3.82	2	14.29	0.1375	
Tardy or early leave on job ^b		94	72.31	10	71.43	1
Future usage ^b		129	99.23	14	100	1

Table 2. Usage of sick child care N=145

Due to missing values, the total number does not represent the total percentage for some items. a: Wilcoxon rank sum test, b: Fisher's exact test, c: Group using the care fee reduction system, d:Group not using the care fee reduction systems.

both groups, approximately 50% of the subjects used sick child care for the reason that they had no relatives who could take care of their children, they were reluctant to take time off work, or they could not bring their children to their workplace. Furthermore, the percentage of those feeling anxiety due to the possibility of their dismissal from work caused by taking time off was significantly higher for the former (28.57% [n=4]) than latter (6.87% [n=9]) group (P=0.0238). In both groups, 70% of the subjects arrived at their workplace late or had to leave early when using care services.

tendency to be higher (P=0.0925). The data obtained from the 13 items regarding sick child care-related requests were subjected to exploratory factor analysis (unweighted least squares, promax rotation), which led to the extraction of the following 3 factors: 1) subsidies for service fees, 2) the expansion of care services, and 3) an increased number of children accepted by nurseries (Table 5). Compared with the double-income group, the single-mother group showed higher scores for both Factor 2 (P=0.0907) and the item representing a desire for an increased number of nursery staff members (P=0.0659).

Indices	Items	Double-income nuclear family		Single-mother		P-value
		n=128		n=14		
		n	%	n	%	
Experiences that had ever been unable to utilize sick child care ^a .		35	27.34	6	42.86	0.2289
Number of times that had ever been unable to utilize sick child care during the previous year. (Mean, SD) ^b		1.12	0.92	1.14	1.07	1
Reasons ^a	The sick child care center had reached its maximum capacity.	29	82.86	5	83.33	0.7009
	Because it took time taking my child to sick child care center, the usage was difficult.	3	8.57	0	0	
	The usage of sick child care was difficult economically.	0	0	0	0	
	Others	3	8.57	1	16.67	
Coping ^a	The child's mother took the day off from work.	101	90.18	12	100	0.5984
	The child's father took the day off from work.	33	29.46	0	0	0.0349
	The child was left in the care of their grandparents.	36	32.14	2	16.67	0.3411
	The child was left in the care of a relative or acquaintance.	9	8.04	2	16.67	0.2881
	A babysitter (e.g., a child raising helper or volunteer) was hired.	7	6.25	0	0	1
	The child's grandparents took the day off from work.	6	5.36	1	8.33	0.5187
	The child was left at home alone.	3	2.68	0	0	1
	The child was taken care of by their non-working parent.	1	0.89	0	0	1
Others	4	3.57	1	8.33	0.4042	

Table 3: Whether or not the subjects had ever been unable to utilize sick child care, and actions taken under such circumstances N=142

a: Fisher's exact test, b: Wilcoxon rank sum test

Sick child care was unavailable at least once for 42.86% (n=6) of the single-mother group, and 27.34% (n=35) of the double-income group (Table 3). In both groups, more than 80% of the subjects with such an experience stated that the reason for this had been because the facility had reached its maximum capacity. No subjects reported financial issues as the reason for being unable to use such care. In both groups, taking the day off work was the most common measure taken by mothers when sick child care was unavailable. Only in the double-income group were the following noted when such care was unavailable: fathers took the day off work (29.46%) [P=0.0349], babysitters were hired, or children stayed at home alone.

The data obtained from the 15 items regarding the benefits of sick child care were subjected to exploratory factor analysis (unweighted least squares, promax rotation), which led to the extraction of the following 2 factors: 1) benefits for parents (support for both work and childraising), and 2) benefits for children (their health and development) (Table 4). Compared with the double-income group, the single-mother group showed a significantly higher percentage of those stating that they were able to learn how to take care of sick children (P=0.021); in the latter group, the score for Factor 1 showed a

Discussion

Sick child care for single-mother households

In the single-mother group, more than 50% of the subjects were non-regular employees with a low income. Single mothers with preschool children are more likely to have difficulty working in full-time positions due to their child raising duties[6,9]. The average annual income of single-mother households with the youngest child being a preschooler is 2.66 million yen, and those with the youngest child being a high school student is 3.49 million yen [6]. As was the case in previous studies, in the present study, many single mothers were non-regular employees with a low income because of their duties to raise their preschool children [9].

Compared with the double-income nuclear family group, the single-mother group showed a higher percentage of those with anxiety due to the possibility of their dismissal from work caused by taking time off, and exhibited a tendency towards a higher score for benefits that parents receive by utilizing sick child care. These results may also have been attributable to non-regular employment and a low income. Such

Factor	Items	Double-income nuclear family		Single-mother		P-value ^a
		n=131		n=14		
		Mean	SD	Mean	SD	
Benefits for parents: 0.85 ^c		3.3	0.47	3.52	0.41	0.0925
	As I did not have to worry about leaving my workplace early, I could focus on my job free from anxiety.	3.82	0.47	3.97	0.43	0.538
	Because my child was taken care of by professionals, I was able to work free from anxiety.	3.86	0.41	3.79	0.43	0.3176
	I could rely on sick child care staff by seeking professional advice.	3.13	0.77	3.36	0.63	0.3291
	I did not have to worry about causing trouble for my relatives or acquaintances.	3.25	0.97	3.57	0.85	0.1888
	I was relieved that I was able to place my child in a care facility.	2.98	0.96	3.43	0.65	0.1078
	I could focus on my work and house chores with a sense of ease.	3.4	0.68	3.5	0.65	0.5944
	I was able to learn how to take care of sick children.	2.72	0.8	3.21	0.89	0.021
Benefits for children: 0.74 ^c		2.98	0.61	3.1	0.91	0.3618
	At the care facility, my child was able to play as usual.	2.5	0.93	2.77	1.09	0.3238
	My child achieved health recovery early.	2.98	0.79	2.93	1.07	0.9532
	I was relieved that the care facility had rooms intended only for children with infectious diseases.	3.46	0.64	3.5	0.76	0.6353
Scale: 0.86 ^c		3.21	0.45	3.42	0.47	0.1408
P-value ^b		<0.0001		0.1245		

Table 4. Benefits of sick child care N=145

a: Wilcoxon rank sum test, b: Benefits for parents vs Benefits for children, Wilcoxon signed-rank test, c: Polycoric ordinal alpha coefficient

Factor	Items	Double-income nuclear family		Single-mother		P-value
		n=131		n=14		
		Mean	SD	Mean	SD	
Subsidies for care fees: 0.96 ^b		2.8	0.74	2.93	0.83	0.4349
	I desire more public subsidies according to the income.	2.97	0.92	3.36	0.93	0.1038
	I desire lower care fees.	2.74	0.92	2.86	1.17	0.6289
	I desire financial support from my workplace.	2.68	1.02	2.93	1.14	0.3664
	I wish that care fees were fully subsidized.	2.49	0.96	2.64	1.22	0.659
	I desire a reduction in fees for nursery school and sick child care when using such care.	3.15	0.93	2.86	1.29	0.4767
Expansion of care services: 0.82 ^b		2.58	0.68	2.98	0.98	0.0907
	I desire an increase in the number of nursery staff members.	2.52	0.81	3	1.04	0.0659
	I desire an increase in the number of nurses.	2.45	0.76	2.86	1.03	0.1058
	I wish that nurseries were open on weekends and holidays.	2.75	0.96	3.07	1.14	0.2144
Increase in the capacity to accept children: 0.83 ^b		3.44	0.63	3.64	0.5	0.274
	I desire an increased capacity to accept children.	3.25	0.83	3.43	0.76	0.4489
	I desire an increase in the number of care facilities.	3.64	0.6	3.86	0.36	0.1981
Scale: 0.86 ^b		2.87	0.54	3.09	0.6	0.1505

Table 5: Parents' requests regarding sick child care N=145.

a: Wilcoxon rank sum test, b: Polycoric ordinal alpha coefficient

Double-income nuclear family: Each mean factor score is significantly different among the three factors (P<0.0008), Wilcoxon signed-rank test or paired t-test, Bonferroni correlation P<0.0167.

Single mother: Each mean factor score is not different among the three factors (P>0.0169), Paired t-test, Bonferroni correlation P<0.0167.

an employment status involves various issues, such as job insecurity, a low income, limited opportunities for skill development, and insufficient social safety nets [10]. Absence from work because of sick children, which is frowned upon by employers, is a serious issue for single mothers in part-time positions because it can result in their dismissal [11]. Therefore, for families with a low income, the systems for reducing sick child care fees are a highly beneficial social safety net that reduces their financial burden, and ensures their continued employment. In the present study, 40% of those in the single-mother group were using these systems, and no single mothers reported financial issues as the reason for being unable to use sick child care. The results of this study suggest that, as a social safety net, such systems greatly contribute to families with a low income, particularly to single mothers.

Concerning the benefits of using sick child care, compared with the double-income nuclear family group, the single-mother group scored more favorably for the item stating that "I was able to learn how to take care of my child". Unlike people from double-income nuclear families, single mothers do not have partners who support them. By utilizing sick child care and learning how to take care of their children, single mothers are able to alleviate disease-related anxiety [12]. In addition, their sense of relief regarding child raising and work will increase through learning about nursing care and improving care-related skills.

Compared with the double-income group, the single-mother group more strongly desired the expansion of care services, and an increase in the number of children accepted by nurseries. In general, single mothers suffer from not only a low income, but also time restraints from child raising and work [13]. They may desire the expansion of sick child care because they often do not have enough time for their children, or possibly because they have an increased sense of guilt due to the cultural perception in Japan that children should be raised by their mothers [14].

The present study revealed that both single-mother households and double-income nuclear families had been unable to utilize sick child care at least once, mainly due to the facility reaching its maximum capacity. In addition, both groups most commonly desired an increased number of care facilities, and an increased capacity to accept children. The systems for reducing care fees will have no significance if sick child care is inaccessible due to reaching the maximum capacity of children, and individuals (e.g., single mothers) without access to such care may suffer from job insecurity. In addition, in the present study, some double-income nuclear families left their children alone at home at least once when sick child care was unavailable. Therefore, from the perspectives of sick children's safety and health recovery, it is necessary to increase the number of children who can be accepted by care facilities. Because most users of sick child care have infectious diseases, its usage markedly differs according to the season and epidemic conditions of these diseases. Furthermore, sick child care involves various factors that may hinder its operations, such as a high rate of cancelling care services, and high labor costs caused by the need to isolate care users from other users as well as long working hours [15]. To increase the number of sick child care facilities, there is a need to ensure the stable operation of such care, and improve government support that takes children's safety into consideration.

The present study had some limitations. For example, the small sample size of single mothers resulted in insufficient statistical power. In addition, because we investigated nurseries in only one city, we were unable to clarify whether or not a higher number of sick child

care services were associated with increased access to care facilities and the increased convenience of their usage (dissemination of sick child care achieved through municipal cooperation). To design policies based on the needs of care service users, it is necessary to conduct investigations according to their characteristics and existing care-related measures.

Conclusion

Sick child care was used mainly by single-mother households and double-income nuclear families. Both types of family experienced inaccessible care services, and so desired an increased number of care facilities, and an increased capacity to accept children.

Single mothers generally considered care-related guidance provided by service staff to be beneficial, and desired an increased number of nursery staff members. Many single mothers were using the systems for reducing care fees, which suggests that such systems support these women for job security and child raising.

Competing Interests

The authors declare that they have no competing interests.

Author Contributions

Kyoko Fukumoto and Ikuko Sobue contributed to the conception and design of the study. Kyoko Fukumoto contributed to the acquisition, analyses, and interpretation of the data, as well as the drafting of the manuscript. Ikuko Sobue contributed to the supervision of the drafting and critical revision of the manuscript. All the authors have read the manuscript and have approved this submission.

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