Analysis of Communication between Inpatient Children and Their Mothers — I —

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We observed the communication between inpatient children and their mothers mainly at the scenes of "play", "drug administration", and "meal" and classified their communication state into 6 types to evaluate the mother-child relationship. The 6 types were such as, good response type (Type I), repair type (Type II), good response discontinuation type (Type III), response setback type (Type IV), rejective ending type (Type V), rejectin type (Type VI).
1. Sixty-two communication scenes were evaluated in 10 mother-child pairs.
2. Concerning child's words and behavior, attachment for their mothers was observed at 82.5% of the "play" scenes. However, both attachment and rejection were observed at similar percentages of "drug administration" or "meal" scenes .
3. Concerning mother's responses, good responses were most frequently observed at play scenes (88.0%). At "meal" scenes, good responses, good response discontinuation, and rejection were observed. In "drug administration" scenes, no rejection was observed.
4. The mother-child communication was classified into 6 types according to mother's responses.
5. Type I and II indicating good responses were most frequently observed (77.4% of the scenes) . Type V and VI indicating rejective responses were observed in 9.7% of the scenes.
6. In "play" and "drug administration" scenes, good communication types were frequently observed. In "meal" scenes, various types were present.
7. The frequency of the communication types indicating rejection was significantly lower in relatively aged mothers group than in young mothers. It is clinically important to clarify the association between mother-child communication types and the situation in which the mother and child are placed based on the results of this study. The participation-observation method used in this study is an effective method of evaluating the relationship between inpatient children and their mothers for appropriate nursing support.

Introduction

There have been many studies on child inpatients in terms of their anxiety due to separation from their mothers or fatigue of mothers due to attendance on their children[1,2,3,4]. However, many of these studies focused on either mothers or children, and there have been few studies that assessed the mother-child relationship.

To evaluate the relationship between inpatient children and their mothers who closely live all day in a specific environment, i.e., hospital, we observed and analyzed their communication in various scenes.

This investigation aimed to clarify the characteristics of mother's responses to child's words and behavior and evaluate appropriate nursing support.

Subjects and Methods

Subjects

The subjects were child inpatients and their mothers without definite communication disorders at the pediatric ward of our university hospital. We committed to the head nurse to select the subjects which suit for the following condition ; preschool aged child and the mother attends on her all day long. We asked the mother to observe the daily communication scene of child and mother, and selected the subjects who agreed.

Investigation period

July 17 - September 1, 1995

Investigation method

Qualitative data is derived from communication or observation of behavior. The participant observation method is one of the qualitative data collection method[5,6]. We collected the data based on it. To observe communication as naturally as possible, children hospitalized in large common rooms and their mothers were observed by two investigators. One of them had contact with the children and mothers, and the other recorded the mother-child relation in field notes as a neutral observer so that the presence of the investigators would not be unnatural.

The investigators serially recorded verbal and non-verbal communications as they were mainly at scenes of "drug administration", "meal", and "play". In addition, investigators' impressions of each communication scene were also recorded. Data on the background of each family were collected from medical records and nurses.

When communication was used to achieve a certain purpose such as "drug administration" or "meal", the period from the initiation of communication to the achievement of the purpose including interruption periods was regarded as 1 communication unit. When communication itself was a purpose such as in "play", the period from the initiation of interaction to its discontinuation was defined as 1 communication unit.

Analysis methods

Based on the study by Nakajima[4], the states of mother-child communication observed were classified as shown in Table 1. Children's words and behavior were classified as follows : (1) attachment for their mothers, (2) neither attachment nor rejection, and (3) rejection of their mothers. Mother's responses were classified as follows : (1) Attention was directed to her child, and her responses were consistent with child's words and behavior. (2) Attention was directed to her child, but her responses are inconsistent with child's words and behavior. (4) Attention was directed to herself, but she did not reject child's appeals. (5) Attention was directed to herself, and her responses to her child were rejective. Responses that could not be included in the above categories were classified as (3).

According to this classification, communication observed at scene 1 (representative case) is schematically shown in Fig. 1. Child's words and behavior (1)-(3) plotted on the left side of the midline were connected with mother's responses (1)-(5) on the right side of the midline along the time axis. Communication patterns thus schematically obtained were classified into 6 types, and the frequency of each type was evaluated in the scenes of "drug

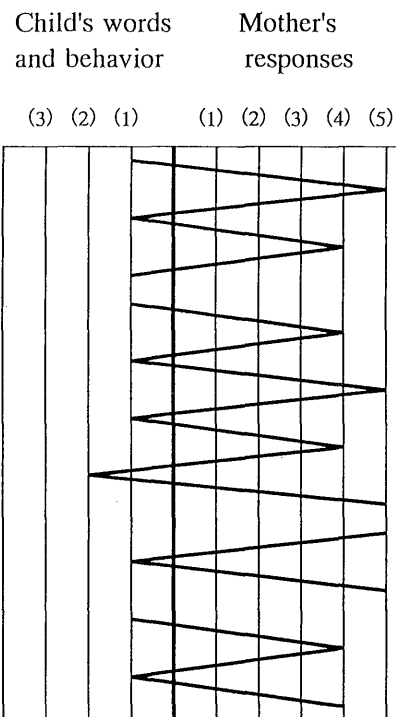| Child's words and behavior	Mother's responses
(3) (2) (1)	(1) (2) (3) (4) (5)

Fig. 1.   A scheme of 1 communication scene

administration", "meal", and "play". In addition, the association between the communication type and family background, disease, or treatment course was evaluated in each pair. Differences were analyzed using the χ^2 test.

Results

Background of subjects

Ten mother-child pairs were observed (Cases A-K). The background of each pair is shown in Table 2. There were 8 male children and 2 female children aged 11 months-7 years. They were hospitalized frequently because of malignant diseases such as acute leukemia, neuroblastoma, or brain tumors. The duration from the onset of the disease varied from 2 weeks to 2 years and 10 months. The present hospitalization period varied from 2 weeks and 5 months. Their mothers were 26-42 years old.

Child's words and behavior : classification and frequencies according to scene categories

We observed a total of 65 scenes, and 3 of them that appeared to be markedly affected by administration of hypnotics or the presence of the 3 rd person were excluded. The remaining 62 scenes were analyzed, consisting of 27 scenes of "play", 15 of "meal", 8 of "drug administration", and 12 of other scenes.

Children's words and behavior were classified, and their frequencies at each scene category are shown in Table 3. In

Table 1.   Classification of contents of communication

<Child's words and behavior>
(1) Attachment
(2) Neither
(3) Rejection

<Mother's responses>
(1) Attention directed to her child, responses consistent with child's words and behavior
(2) Attention directed to her child, responses inconsistent with child's words and behavior
(3) Others
(4) Attention directed to herself, non-rejective responses to child's words and behavior
(5) Attention directed to herself, rejective responses to child's words and behavior

Table 2. Background of subjects

Case	sex	age	disease	duration from onset	present hospitalization period	mother's age
A	Male	3 years	ALL	1 month	1 month	27 years
B	Male	7 years	ALL	9 months	1 week	36 years
C	Male	6 years	ALL	3 weeks	3 weeks	35 years
D	Male	6 years	AML	2 yeas and 10 months	5 months	38 years
E	Male	6 years	ALL	10 months	3 weeks	33 years
G	Male	2 years	NB	1 year	1 month	38 years
H	Female	3 years	BT	2 months	2 months	42 years
I	Male	11 months	NB	3 months	3 months	26 years
J	Female	2 years	ITP	2 weeks	2 weeks	37 years
K	Male	2 years	congenital myopathy	5 month	5 months	27 years

ALL : acute lymphocytic leukemia, AML : acute myeloid leukemia, NB : neuroblastoma,
BT : brain tumor, ITP : idiopathic thrombocytopenic purpura

Table 3. Child's words and behavior :
classification and frequencies according to scene categories

	(1) Attachment	(2) Neither	(3) Rejection
Play N=143	188 (82.5)	17 (11.9)	8 (5.6)
Meals N=86	42 (48.8)	15 (17.5)	29 (33.7)
Drug administration N=37	15 (40.5)	5 (13.6)	17 (45.7)
	( ) : %		p<0.01

"play", attachment for mother (1) was observed at 118 scenes (82.5%) and rejection (3) at 8 (5.6%). In "meal", (1) was observed at 42 scenes (48.8%) and (3) at 29 (33.7%). In "drug administration", (1) and (3) were observed at 15 scenes (40.5%) and 17 scenes (45.9%), respectively. (1) was more frequently observed in "play" than in "drug administration" or "meal". A significant relationship was observed between the type of scenes and distribution of the contents of children's words and behavior (p<0.01).

Mother's responses : classification and frequencies according to scene categories

Mothers' responses were classified, and their frequencies are shown in Table 4. In "play", (1) and (2) indicating good responses were observed at 84 scenes (67.2%) and 26 scenes (20.8%), respectively, and (4) and (5) indicating rejection were observed at 9 scenes (7.2%) and 1 (0.8%), respectively. In "meal", (1) and (2) were observed at 23 scenes (24.0%) and 42 scenes (43.2%), respectively, and (4) and (5) were also observed at 12 scenes (12.5%) and 8 scenes (8.3%), respectively. In "drug administration", (1) and (2) were observed at 9 scenes (22.0%) and 28 scenes (68.3%), respectively, but (4) or (5) was not observed. (4) and (5) indicating rejection were more frequently observed in "meal" than in "play" or "drug administration". A significant correlation was observed between the types of scenes and the distribution of the contents of mothers' responses (p<0.01).

Table 4. Mother's responses : classification and frequencies according to scene categories

	(1) Attention directed to her child, responses consistent with child's words and behavior	(2) Attention directed to her child, responses inconsistent with child's words and behavior	(3) Others	(4) Attention directed to herself, non-rejective responses to child's words and behavior	(5) Attention directed to herself, rejective responses to child's words and behavior
Play N=125	84 (67.2)	26 (20.8)	5 (4.0)	9 (7.2)	1 (0.8)
Meals N=96	23 (24.0)	42 (43.7)	11 (11.5)	12 (12.5)	8 (8.3)
Drug administration N=37	9 (22.0)	28 (68.3)	4 (9.8)	0	0
	( ) : %				p<0.01

Child's words   Mother's
and behavior   responses

(3) (2) (1)   (1) (2) (3) (4) (5)

Type I
(good response type)

Child's words   Mother's
and behavior   responses

(3) (2) (1)   (1) (2) (3) (4) (5)

Type II
(repair type)

Child's words   Mother's
and behavior   responses

(3) (2) (1)   (1) (2) (3) (4) (5)

Type III
(good response
discoutinuation type)

Child's words   Mother's
and behavior   responses

(3) (2) (1)   (1) (2) (3) (4) (5)

Type IV
(response setback type)

Child's words   Mother's
and behavior   responses

(3) (2) (1)   (1) (2) (3) (4) (5)

Type V
(rejective ending type)

Child's words   Mother's
and behavior   responses

(3) (2) (1)   (1) (2) (3) (4) (5)
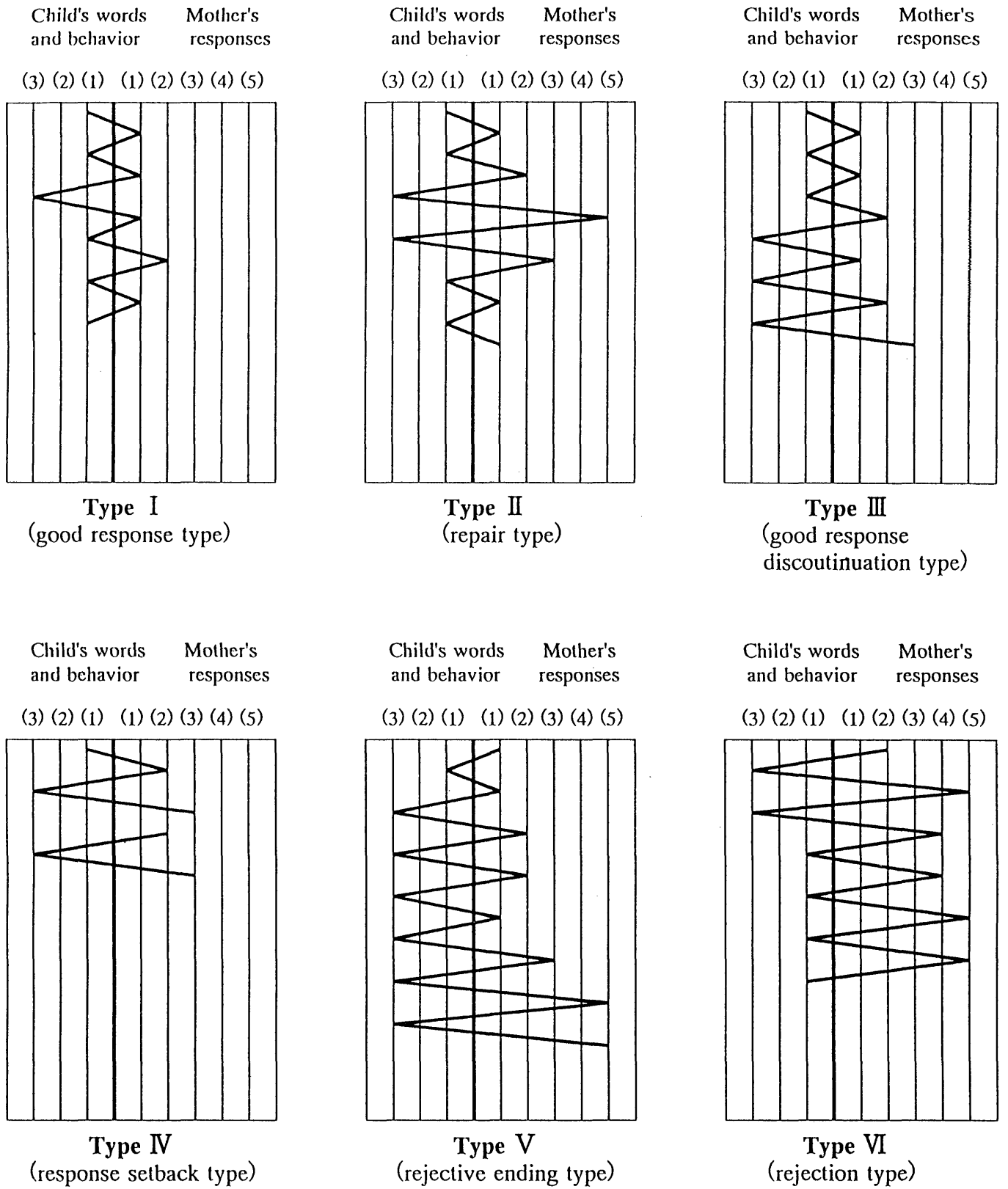
Type VI
(rejection type)

Fig. 2. Communication types

Table 5. Communication types according to scene categories

	Type 1 good response type	Type 2 ripair type	Type 3 good response discontinuation type	Type 4 response setback type	Type 5 rejective ending type	Type 6 rejective type	Total
Play N=27	24 (88.9)	2 (7.4)	0	0	1 (3.7)	0	27
Meals N=15	6 (40.0)	0	3 (20.0)	2 (13.3)	1 (6.7)	3 (20.0)	15
Drug administration N=8	6 (75.0)	0	1 (12.5)	1 (12.5)	0	0	8
Others N=12	9 (75.1)	1 (8.3)	0	1 (8.3)	0	1 (8.3)	12
Total	45	3	4	4	2	4	62

( ) : % $p < 0.01$

Table 6. Communication types according to mother's sge

N=56

	Case	Good types (Types I-IV)	Rejective types (Types V, VI)
Age<30	A, I, K	14 (73.7)	5 (26.3)
Age≥30	D, E, G, H, J	36 (97.3)	1 (2.7)

( ) : % $p < 0.05$

Classification of communication

Obtained patterns were classified into 6 types according to mother's responses, shown in Fig. 2.

Type I : mother's attention was directed to her child irrespective of words and behavior of her child, showing good responses (good response type). Type II : mother's responses were temporarily inconsistent with child's words and behavior or rejective, but finally became good (repair type). Type III, the mother initially made efforts, showing good responses, but good responses were discontinued halfway (good response discontinuation type). Type IV : the mother soon gave up responding to rejective words and behavior of her child (response setback type). Type V : The mother tried to make good responses but finally rejected her child (rejective ending type). Type VI : the mother rejected the words and behavior of her child (rejection type).

Type I was observed at 45 of the 62 scenes (72.6%), type II at 3 (4.8%), type III at 4 (6.5%), type IV at 4 (6.5%), type V at 2 (3.2%), and type VI at 4 (6.5%). Type I, indicating good communication was most frequently observed.

Communication types according to types of scenes

Table 5 shows communication types according to the types of scenes. Type I was observed at 24 (88.9%) of the 27 "play" scenes and 6 (75.0%) of the 8 "drug administra-

tion" scenes, showing good communication. However in "meal", type I was observed at 6 (40.0%) of the 15 scenes, type III, indicating discontinuation at 3 (20.0%), and type VI indicating rejection at 3 (20.0%), showing various types. There was significant correlation between communication types and the types of scenes ($p < 0.01$).

Communication types in each family

Fig. 3 shows the ratio of each communication type in each family. Eight mother-child pairs in whom 5 or more scenes were observed were analyzed, and the other 2 pairs (B and C) in whom less than 5 scenes were observed were excluded. Type I indicating good responses was observed at 60% or more of the observed scenes in most pairs, but types indicating discontinuation or rejection were also observed in all pairs.

Background factors and communication types in the subjects

The communication types were classified into good types (patterns I-IV) and rejection types (V and VI), and their association with the background of the subjects was evaluated. As shown in Table 6, in the mothers aged less than 30 years, good types were observed at 14 scenes (73.3%) and rejection types at 5 (26.3%). In the mothers aged 30 years or more, good types were observed at 36 scenes (97.3%) and rejection types at 1 (2.7%). Thus, the percentage of rejection types was significantly lower in the relatively aged mothers ($p < 0.05$). Similarly, the percentages of good types and rejection types were evaluated according to the duration from onset, present hospitalization period, child's age, presence or absence of unpleasant symptoms in the child, and the presence or absence of hospitalization experience. However, no association was observed between the good or rejection types and these background factors.
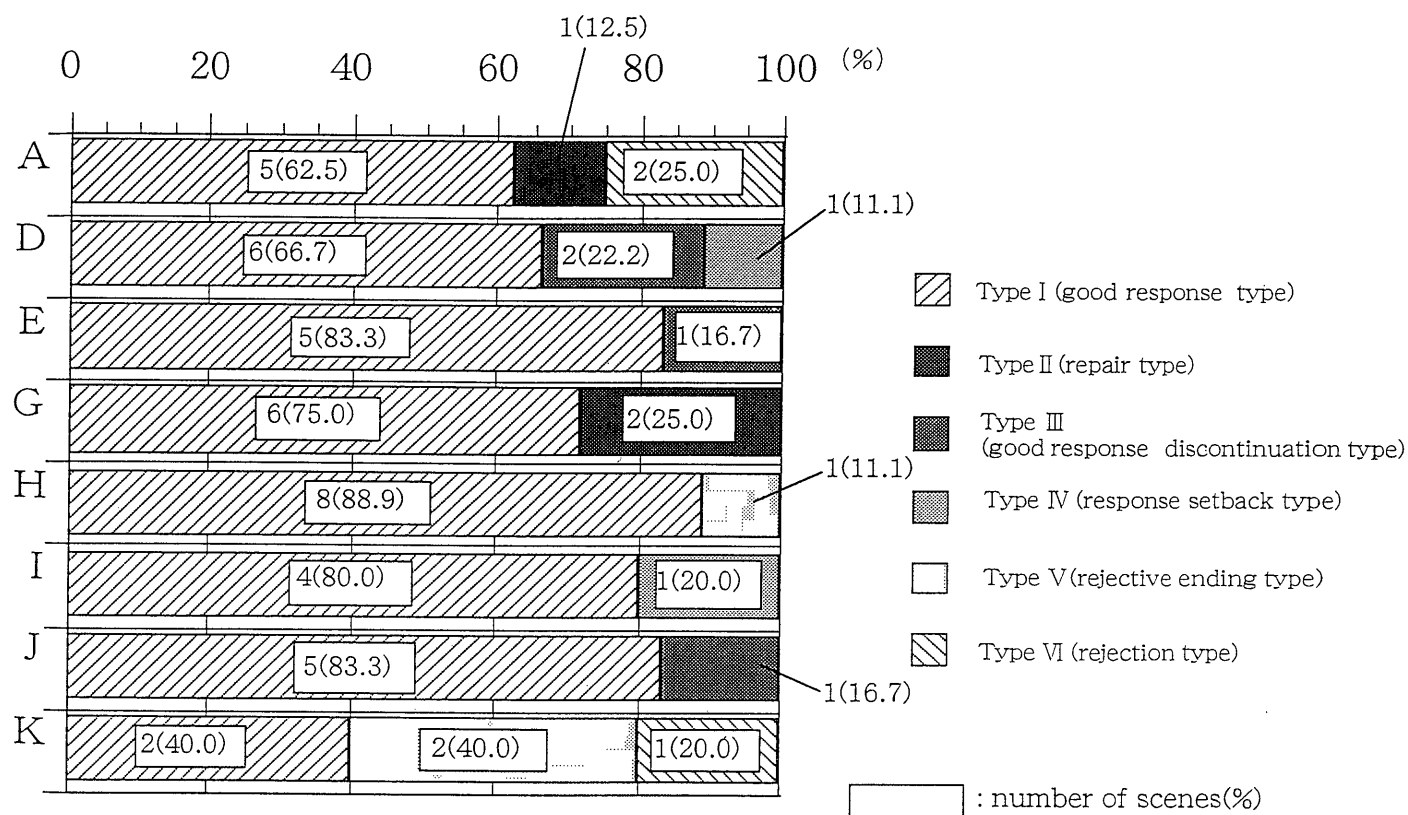
Fig. 3. Ratios of communication types in each family

Discussion

We classified communications between mothers and their inpatient children into 6 types, referring to the study by Nakajima[4] who classified the communication in terms of "child's attachment behavior and mother's responses". In the present study, mothers' responses were observed in scenes of "play", "drug administration", and "meal". The responses of some mothers were inconsistent even their children showed similar attachment behavior. Klaus et al[7]. interviewed mothers who had children with congenital anomalies and classified the process in which they accepted their children's disease into 5 stages : " shock", "denial", "sorrow and anger", "adaptation", and "recovery". In the stage of "sorrow and anger", even mothers who can generally response objectively may temporarily lack consistency in responses to their children. Moreover, when the mother and her child closely live all day in a specific environment, i.e., hospital, mothers' responses to their children may become more dependent on situations.

To clarify appropriate mental support needed for mothers in each situation, evaluation of the frequency of mother-child communication types in each situation is very useful.

Evaluation of communication types according to the categories of scenes showed good types at 24 of the 27

"play" scenes. This high frequency of good types may be because children were satisfied with plays, and their mothers observing them were calm. at the "drug administration" scenes, good responses were also frequently observed. Since the importance of "drug administration" as treatment is clear, rejection responses by the mothers may have been few. On the other hand, at "meal" scenes, various types were observed compared with "play" or "drug administration". Communication at "meal" scenes is affected by various factors such as the child condition or contents of meals, and the therapeutic importance of meals is not clear compared with "drug administration" in both mothers and children.

We evaluated the possible association between communication types and the frequency of factors that may affect mothers' responses to their children (mother's age, duration from onset, present hospitalization period, child's age, presence or absence of uncomfortable symptoms in the child, and the presence or absence of hospitalization experience). Among these factors, only age of the mother was significantly correlated with communication types. However, further studies are needed on the reason for such differences in mothers' responses according to their age.

In this study, we observed and analyzed communication between inpatient children and their mothers. Methods of evaluating the mother-child relationship include the questionnaire method and projection method. These

methods are useful but require experience and skill for evaluation of results and are difficult to repeatedly carry out. In clinical settings, methods by which mother-child communication as it is can be evaluated by observation are necessary. In addition, such methods should allow observation and evaluation from the same point of view by any investigator. The method used in this study has still some problems such as the method of classifying children' words and behavior or mothers' responses, and the criteria for type classification, and the number of the subjects observed was also small. However, further studies in additional cases may clarify effective measures for appropriate nursing support .

Acknowledgment

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