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## The Knowledge of Community Public Health Nurses in Supporting Multiple Birth Families

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### Abstract

To investigate the actual knowledge and the source of information of community public health nurses concerning support for multiple birth families, questionnaires were sent by mail. 2504 questionnaires were sent to municipality health centers and 1391 were returned (recovery rate 55.5%). 690 questionnaires were sent to prefecture health centers and 431 were returned (recovery rate 62.5%). Public health nurses did not understand well that child abuse more frequently occurs in multiple birth families. Nor did they understand mental fatigue of multiple birth families. Near half of public health nurses were not sure whether their answers to questions from such families were correct or not. Only 25.8% of municipality public health nurses and 30.4% of prefecture public health nurses delivered the multiple birth booklets published by the Ministry of Health and Welfare in 2000. Regarding information sources, 54.6% of municipality public health nurses and 65.9% of prefecture public health nurses obtained information from books to support multiple birth families. For the support tool for public health nurses themselves, 71.3% of municipality public health nurses and 68.5% of prefecture public health nurses feel that they need manuals. Multiple birth specialists are necessary in the community to supervise public health nurses.

**Keywords:** multiple births, public health nurses, child care burden, child abuse, supervision

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### I. Introduction

Families with multiple births face various risks, including pregnancy complications as well as physical fatigue during childcare, and emotional stress on the family are often related high incidence of child abuse<sup>1-3)</sup>.

So, multiple birth families need special care not only from medical facilities, but also community. In Japan, community public health nurses (PHNs) deliver health guidance as a routine job, so they have many opportunities to visit multiple birth families. Actually, they do not have enough information to provide adequate health guidance to multiple birth families. The aim of this study is to clarify the actual knowledge and the sources of information of community PHNs concerning support for multiple birth families.

### II. Materials and Methods

In Japan, there are two types of PHNs working in the community. One type belongs to the municipality

health center (HC), rather close to the everyday life of community residents. Another type belongs to prefecture HC. Such types of PHN deal with rather complicated cases or supervise PHNs in municipality HC. So questionnaires were sent to both types of PHNs.

Questionnaires were sent to all the municipal HCs listed in the 2003 annual report of the All Japan Federation of Municipal Health Centers and all the Prefecture HCs appearing in the list provided by Japanese Association of Public Health Center Directors in 2003.

Questionnaires were sent and returned from May 2004 through June 2004. 2504 questionnaires were sent to municipality HCs and 1391 were returned, so the recovery rate was 55.5%. 690 questionnaires were sent to prefecture HCs and 431 were returned, so the recovery rate was 62.5%. Questionnaires were self-administered, sent and returned by post.

The characteristics of HCs which returned the questionnaires are shown in Table 1. Major parts of the questionnaires received from the 1391 municipal HCs were

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Table 1. Characteristics of health centers (HCs)

municipality HCs			prefecture HCs		
population of municipalities	No of HCs	proportion (%)	attached to:	No of HCs	proportion (%)
~ 7,999	400	28.8	prefecture designated cities	311	72.2
8,000 ~ 19,999	405	29.1			
20,000 ~ 49,999	297	21.4			
50,000 ~ 99,999	149	10.7	total	431	100.0
100,000 ~	140	10.1			
total	1391	100.0			

answered by smaller municipalities with a population less than 20,000. One hundred and twenty questionnaires were received from HCs attached to designated cities.

Questionnaires were developed to clarify the following: understanding of PHNs about burden of multiple birth parents, how confident are PHNs to answer the questions from multiple birth families, to what extent PHNs provide parents about resources of multiple birth family support, and the sources of information about multiple birth families.

To clarify the understanding of PHNs about burden of multiple birth families, PHNs were asked how they are aware of the problems concerning child care for multiple births: the risk of child abuse, mental fatigue, insufficient information, problems during pregnancy, anxiety during pregnancy, complications during delivery, economic burden and physical fatigue. Answers about awareness were divided into 5 categories, “very aware”, “rather aware”, “not very aware”, “not aware” and “not sure”.

To clarify the confidence of PHNs about the knowledge of multiple births, they were asked whether they could answer the questions from mothers when they were asked concerning the growth and development of multiple birth children, actual child-care techniques and the mental struggle of child care. Answers were divided into 4 categories: ‘we could easily answer’, ‘it was hard to answer’, ‘once answered but we were not sure if it was satisfactory or not’, or ‘I have not been asked such questions’.

To be helpful to multiple birth families, PHNs are needed to have enough knowledge of the resources or support system for multiple birth families. In 2000, the Ministry of Health and Welfare of Japan made 20,000 copies of booklets containing information about the child care of twins and triplets. Municipalities are expected to deliver them to multiple birth families. The questionnaire asked whether they actually delivered them to families or whether they are aware of them.

In Japan, the prenatal maternity leave for multiple births is 8 weeks longer than singletons, that is to say, 14 weeks. The questionnaire asked whether PHNs informed the

multiple birth families of this.

PHNs need to have enough knowledge about multiple birth families. The questionnaire also asked from where PHNs get information about multiple birth families and from where they wanted to get support in order to work with multiple birth families. They were asked to choose three major answers from the 9 and 8 items respectively.

### III. Results

The distribution of PHNs regarding how they are aware of the problems of child care in multiple birth families is shown in figure 1. Municipality PHNs and prefecture PHNs were combined for the analysis. Many PHNs understood the physical fatigue caused by childcare in multiple birth families, but they did not understand that child abuse more frequently occurs in multiple birth families. They also did not understand much about mental stress in childcare.

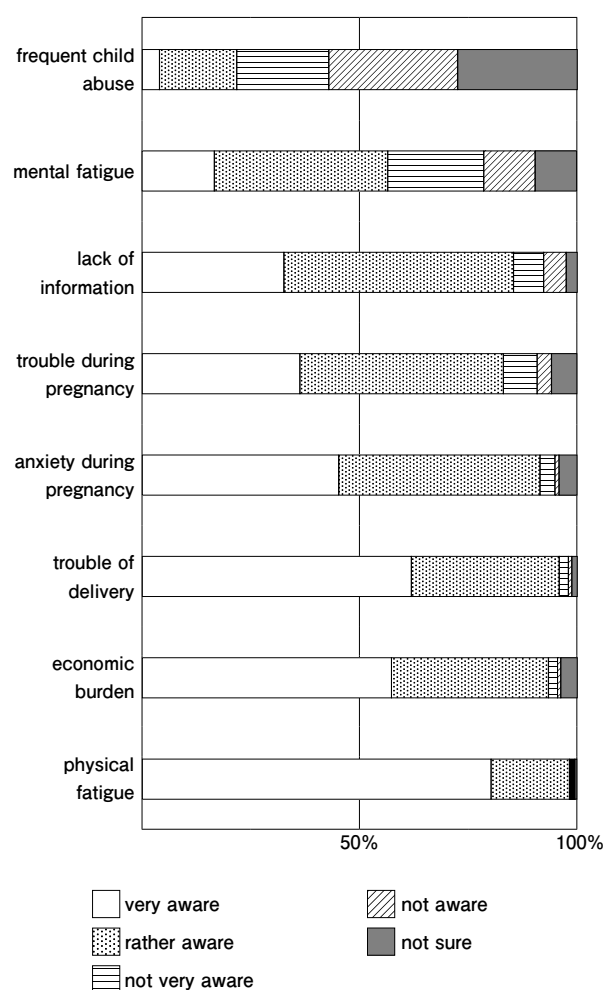


Figure 1. How the public health nurses aware of the problems of the multiple birth families

When PHNs were asked about growth and development or childcare of multiple births, some felt it was easy to answer and others difficult to answer, but the majority thought that they were not sure whether the answer was adequate or not. For mental struggle of multiple birth families, 68.4% of PHNs had no opportunity to be asked about the problem. (Figure 2)

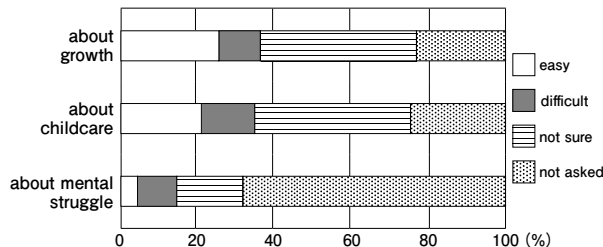


Figure 2. Difficulties which public health nurses feel in answering the questions from multiple birth families

With regard to the booklet made by the Ministry, data were compared between municipality PHNs and prefecture PHNs. They were allowed to choose more than two answers. 25.8% of the municipality PHNs and 30.4% of the prefecture PHNs actually distributed booklets to multiple birth families. 32.0% of the municipality PHNs and 35.7% of the prefecture PHNs introduced booklets to all families. 25.8% of the municipality PHNs and 30.4% of the prefecture PHNs used them as a reference of PHNs. In 8.7% of municipalities, even though they were delivered by the central government, such booklets were not delivered to the families. 12.4% of the municipalities answered that they did not have one with them and 8.0% of the municipalities answered that they did not know about them (Figure 3).

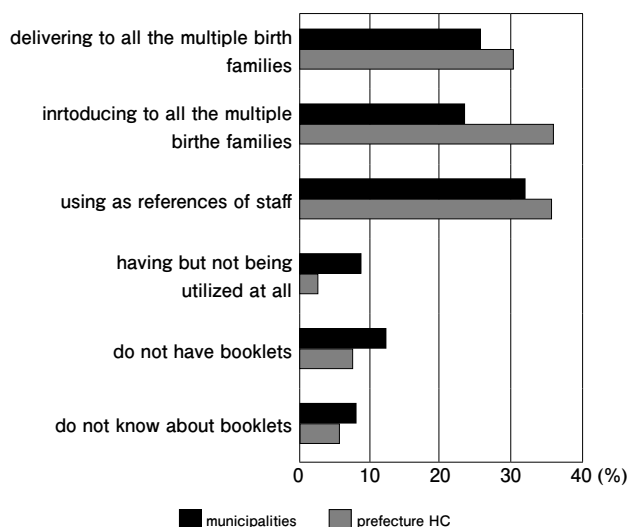


Figure 3. How public health nurses deal with multiple birth booklets made by the Ministry (multiple choice)

For the information about prenatal maternity leave, 13.0% of municipalities deliver the information by brochure, and 45.6% of the municipalities delivered an oral announcement. 33.4% of the municipality PHNs and 50.5% of the prefecture PHNs answered that they do not inform multiple birth families of the multiple pregnancy specific prenatal maternity leave, even though they have information about it. 7.4% of the municipality PHNs and 11.2% of prefecture PHNs did not know of the system itself. (Figure 4)

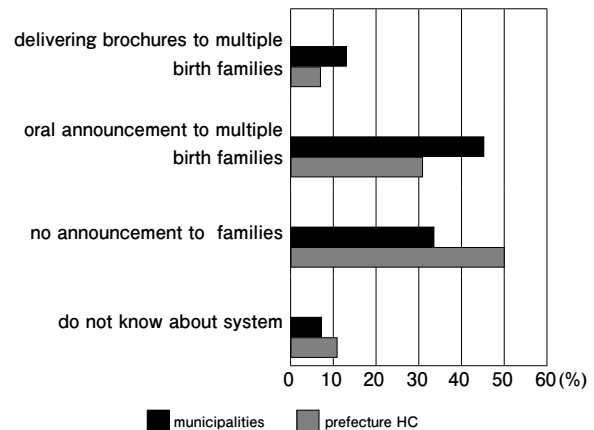


Figure 4. Announcement of multiple birth specific prenatal maternity leave by public health nurses (multiple choice)

Regarding the support activities for multiple birth families, PHNs tried to obtain the information they needed. Figure 5 shows from where PHNs obtained the information about multiple birth families. They were asked to choose the three most appropriate answers from 8 options. 55.0% of municipality PHNs and 65.9% of prefecture PHNs got their information from books, 52.1% of municipality PHNs and 50.6% of prefecture PHNs got their information from peer PHNs, and 50.4% of municipality PHNs and 54.3% of prefecture PHNs got their information from families actually raising multiple birth children. 30.0% of municipality PHNs got their information from prefecture HCs, which are responsible for supervision of the municipalities. 31.3% of prefecture PHNs got information from community multiple birth circles and 33.6% of them from the internet.

Supports for PHNs themselves are necessary to work with multiple birth families in the community. The kinds of supports that PHNs want are shown in Figure 6. 71.3% of municipality PHNs and 68.5% of prefecture PHNs needed manuals for the support of multiple birth families. 37.3% of prefecture PHNs needed seminars at the prefecture level, and 27.6% of municipality PHNs needed seminars for municipalities and 32.9% of them supervising from prefecture PHNs. 25.7% of municipality PHNs and 23.9% of prefecture PHNs needed contact with multiple

birth families. 24.6% of municipality PHNs and 32.0% of prefecture PHNs needed contact with multiple birth circles.

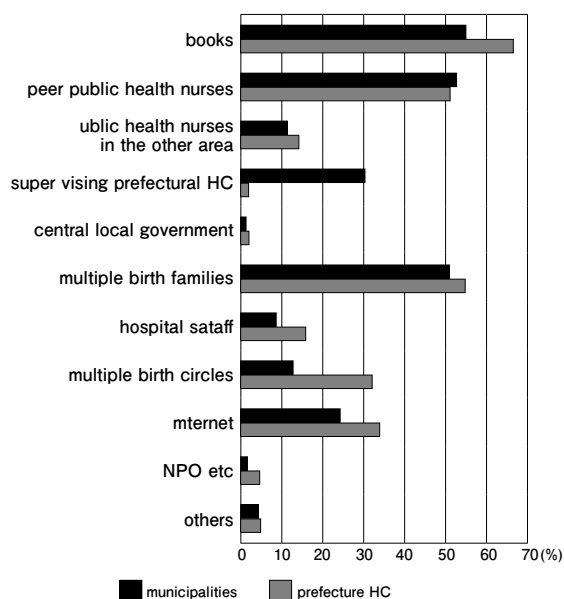


Figure 5. From where did public health nurses get information about multiple birth families? (multiple choice)

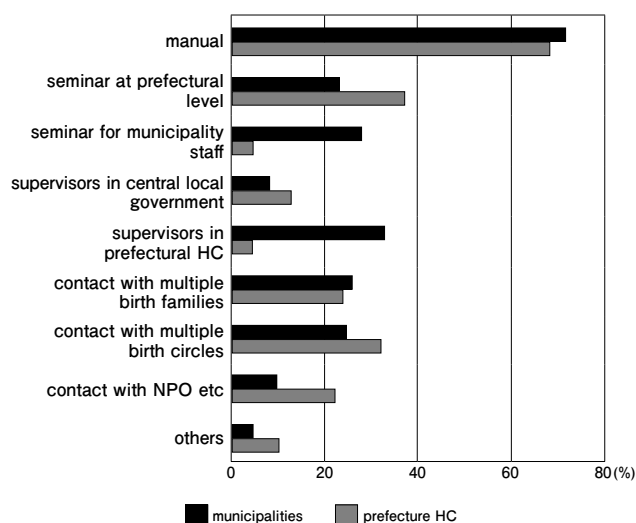


Figure 6. Supports needed by public health nurses toward multiple birth families (multiple choice)

## IV. Discussion

Parents of twins expend greater energy and money than those of singletons, while being subject to more stress on oneself and one's marital and personal relationships<sup>4)</sup>. Mothers of twins are more vulnerable to postpartum depression<sup>5)</sup> and mental distress<sup>6)</sup>. Perceptions of mothers of enormous responsibilities and a sense of the inability to cope as a parent, spouse and individual, all too often lead to despondency<sup>5)</sup>.

Yokoyama et al. reported that Japanese mothers who give birth to twins, triplets and quadruplets may experience severe fatigue and have less time to take care of other children<sup>7)</sup>. Yokoyama also found that mothers of twins tended to be more anxious during pregnancy than of singletons, and that after delivery, twin mothers felt they had less time for child care and showed more fatigue<sup>8)</sup>. Overt responses to the stress of raising twins may be present where families with twins experienced a significantly higher incidence of child abuse and neglect than did those with single births<sup>9)</sup>.

Practical help and support from within a woman's social network has been found to be an important factor in coping with and reducing stress for mothers of multiple births<sup>7)</sup>. Families with multiple births will need informed advice and support from those who care for them and most will need a lot of extra practical and probably some financial help. Even more important, however, is the advice and emotional support provided professionals and, not least, by other experienced parents of twins<sup>10)</sup>.

Families will continue to need informed advice and support from those who care for them. The Multiple Births Foundation (MBF) was established in the UK in 1988 as the first organization to offer professional support to families with twins, triplets and more as well as information, advice and training to the many medical, educational and social work staff concerned with their case<sup>3)</sup>. Many countries now have national twins associations that provide much useful advice and act as an umbrella for local clubs for parents of twins. Japan has many of such clubs, but no national foundation for multiple births.

Community PHNs in Japan are responsible for various community issues, not only maternal and child health, but aged people issues or mental health issues. It is impossible for all the community PHNs to be twin specialists and to give adequate care and advices<sup>11)</sup>. It is hard for community PHNs to meet the needs of multiple birth families. Actually, many PHNs did not recognize whether child abuse is apt to happen in multiple birth families, nor mental fatigue is major problem in childcare in multiple births.

Nearly 70% of PHNs did not have experience to be consulted about the troubles of mental struggles by mothers. For the question about growth and childcare, nearly half of the PHNs answered once but were not sure whether or not it was the right answer. PHNs are not actually twin specialists<sup>11)</sup>.

For the utilization of the booklet made by the Ministry, though they are allowed to choose more than two answers, only one-third of PHNs were delivering them to families, and several percent of them did not even know about their existence. This indicates the poor knowledge of PHNs toward these booklets, because they do not have enough time to be familiar to all of the health service materials which are delivered to the community people. For prenatal maternity leave, around 40% of municipally PHNs and around 30% of prefecture PHNs announced them to multiple birth families. For PHNs who are too busy with many other works, efforts should be made to deliver necessary multiple birth information to them.

Three major information sources for PHNs were books, colleagues and families actually taking care of multiple births. Moreover, 30% of municipality PHNs received information from prefecture PHNs. In Japan, generally, not all the municipalities and prefecture HCs are necessarily in good connection: still this figure tells us that multiple birth issues can help making a connection between municipalities and prefecture HC. Prefecture PHNs had more relationships with multiple birth circles than municipality PHNs. Because members of multiple birth circles are gathered from widespread regions, prefecture PHNs, who cover wider regions and supervise several municipalities, are more familiar with them than municipality PHNs.

For the supports for PHNs, a manual was revealed to be one of the primary needs. Better manuals should be provided. Seminars were also shown to be necessary. For supervision, supervisors from central local government were not particularly necessary; rather, supervision from prefecture PHNs to municipal PHNs was more necessary because supervision is the essential job of prefecture PHNs.

Prefecture PHNs and municipality PHNs are together making effort to support multiple birth families. Although Brian, who was the president of MBF in UK, points out, professional support is necessary for multiple birth families<sup>10)</sup>, not all the community PHNs can necessarily be professional for multiple births. We need not expect all community PHNs to be multiple birth specialists, rather several numbers of multiple birth specialists should be provided in the prefecture level to support multiple birth families or supervise PHNs. Such a system will relieve community PHNs from embarrassment in supporting multiple birth families and will be good for multiple birth

families themselves.

In conclusion, community public health nurses do not understand well about the actual burden of multiple birth families and are seeking support or information for helping multiple birth families. Multiple birth specialists are necessary in the community to supervise public health nurses.

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地域保健師の多胎家庭へのサポートに関する知識と情報源について郵送調査によって明らかにした。市町村保健センターからは 2504 通のうち 1391 通 (55.0%) の返送があった。都道府県保健所からは 690 通のうち 431 通 (62.5%) の返送があった。地域保健師は児童虐待が多胎家庭に起こりやすいことをあまり良く知らなかった。半数の保健師は多胎児の親の質問に適切に答えられないと感じていた。2000 年厚生省（当時）が作成した多胎児ブックレットは、市町村保健師の 25.8% が、保健所保健師の 30.4% が配っているに過ぎなかった。54.6% の市町村保健師が、65.9% の保健所の保健師が、多胎サポートに関する知識を書籍から得ていた。市町村保健師の 71.3% が、保健所保健師の 68.5% が、多胎サポートマニュアルが必要と考えていた。地域保健師のスーパーバイズシステムが必要であると考えられた。

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