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Activities of DPAT (Disaster Psychiatric Assistance Team) in Okayama Prefecture after the Western Japan Heavy Rains

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Abstract

Okayama prefecture experienced heavy rains in July, 2018. We initiated the Okayama DPAT (Disaster Psychiatric Assistance Team) from July 7th to 27th. The Okayama DPAT consisted of the headquarters and a round team. Round teams took turns visiting shelters for counseling and consultation for flood victims, and for supervision of public health nurses and other service providers who were in charge of victims staying in shelters. The number of individuals who received psychiatric assessment was 56, and that of those who were consulted without face-to-face consultation was 40. Eighteen individuals (among 56: 34.0%) exhibited anxiety, which was the top chief complaint among those who received psychiatric consultation. Fifteen individuals (among 56: 28.3%) were diagnosed with adjustment disorder.

The Okayama DPAT faced several problems described below.

1. There is no consensuses regarding the situations in which DPAT should be initiated and in which the assistance of DPAT outside Okayama Prefecture should be requested.
2. Okayama Prefecture has not established plans for psychiatric services in the event of disaster. Psychiatric hospitals are not sufficiently prepared for disasters.
3. The headquarters of the Okayama DPAT was located in Okayama City, distant from the damaged area, Kurashiki City, which made it difficult to access detailed and immediate information of the unmet needs of victims.
4. The information of Okayama DPAT was not effectively transferred to the DPAT

Secretariat or the Ministry of Health, Labour and Welfare.

5. The headquarters was overwhelmed with information regarding the needs of victims and psychiatric hospitals, which was confusing and sometimes contradictory, hindering effective needs assessment and service provision.

As we will likely face disasters in the future, we should make a plan to solve these problems.

Keywords: DPAT, disaster, psychiatry, adjustment disorder, system for receiving outside support

Introduction.

Starting in July 5, 2018, the rainy season front was stalled, and western Japan was hit by torrential rains for a long time, which has never been recorded before. Okayama Prefecture usually has a lot of sunshine; however, the torrential rains caused serious damage in the area. In response to this damage, Okayama Prefecture organized a Disaster Psychiatric Assistance Team (DPAT) within the prefecture; however, the team faced many challenges in its activities. This study will focus on the establishment of the coordination headquarters and the organization of the DPAT.

I. Damage in Okayama Prefecture

The torrential rains of July 2018 caused extensive damage in Okayama Prefecture, especially in Kurashiki City. The following is a summary of the damage 2). Excluding disaster-related deaths, 61 people died (including 52 in Kurashiki City), and three people were missing. Damage to houses was also extensive: 4,830 houses were completely destroyed (including 4,646 in Kurashiki City), 3,364 houses were half destroyed (including 846 in Kurashiki City), 1,126 houses were partially destroyed (369 in Kurashiki City and 523 in Soja City), 1,540 houses were flooded above floor level, and 5,507 houses were flooded below floor level. The number of inundated houses above and below floor level was higher in Okayama City, where rivers collapsed due to the torrential rain, whereas the number of completely destroyed houses was higher in Kurashiki City. The number of evacuees peaked on July 10, 2018, at about 4,000, and the number of evacuation centers peaked at 57.

Although the damage was widespread

throughout Okayama Prefecture, medical support needs were concentrated in a relatively localized area centered on Mabi-cho in Kurashiki City. Although there were some psychiatric hospitals whose staff were affected by the disaster and whose water supply and electricity were stopped at the beginning of the disaster, no psychiatric institutions suffered serious functional deterioration. Thus, it was expected that DPAT activities could be completed relatively quickly.

II. DPAT activities

On July 7, 2018, the Okayama Prefectural Public Health Care Coordination Headquarters was established in the Health and Welfare Department of the Okayama Prefectural Government, and the Disaster Medical Assistance Team (DMAT) Coordination Headquarters was established in the Medicine Promotion Division. On the same day, the DPAT Coordination Headquarters was set up in the Health Promotion Division, which was in charge of mental health (Table 1). Initially, a psychiatrist was the coordinator, and three staff members of the Health Promotion Division and one staff member of the Okayama Prefecture Mental Health and Welfare Center formed the coordination headquarters.

At first, there was little information about the damage, making it extremely difficult to grasp the situation. Even when we checked the Emergency Medical Information System (EMIS) for psychiatric hospitals, most of the hospitals did not have any information on the damage. Therefore, the person in charge of the coordination headquarters contacted all psychiatric hospitals by phone to confirm the status. We dispatched a DPAT advance team on July 8, and through subsequent phone calls, we were able to confirm that the water supply had stopped and the power had been cut off at hospitals in the affected areas.

In terms of support to the affected areas, the DPAT Coordination Headquarter decided an advance team to patrol evacuation centers on July 10, and the team began visiting evacuation centers on July 11. Table 2 and Table 3 show the actual situation of the support provided. The peak period was July 16, after which we provided sporadic consultations and limited medical services. This support was mainly provided in response to requests from public health nurses who were stationed at evacuation centers. The most common complaint was anxiety (18 cases, 34.0%), and the most common diagnosis was adjustment disorder (15 cases, 28.3%).

The DPAT Coordination Headquarters moved to the Bicchu Public Health

Center in Kurashiki City when the Okayama Prefectural Public Health Care Coordination Headquarters moved to Kurashiki City on July 17. There, we received information from the patrol team and communicated with the Kurashiki City Public Health Center, the Bicchu Public Health Center, and the Disaster Health Emergency Assistance Team, which had already been in the center since July 12. We discussed the response with a view to the conclusion of DPAT. It was decided that DPAT would be terminated on July 27, and that the existing mental health activities of the municipalities, public health centers, and the Okayama Prefectural Mental Health Welfare Center would provide support thereafter.

III. Challenges of the Activity

The following is a review of the issues involved in the DPAT activities. We will focus on the support system, mainly the establishment and operation of the DPAT Coordination Headquarters. The following is the personal perspective of the author, who was involved in the operation of the DPAT Coordination Headquarters as the DPAT supervisory manager.

The issues were as follows:

(1) Clarification of criteria for launching DPAT and introducing external support,

(2) Disaster response system in the prefecture, rules for setting up the coordination headquarters, dissemination of preparations to each hospital, and maintenance of information transmission methods,

(3) Division of roles between the coordination headquarters and the activity center headquarters,

(4) Appropriate information sharing with the DPAT secretariat (Tokyo) and the Ministry of Health, Labour and Welfare (MHLW),

and (5) Establishing a system for understanding the situation and making decisions in a disaster.

A brief description of each is given below:

1. Clarification of criteria for launching DPAT and introducing external support

The first thing that troubled us during the disaster response was that the criteria for launching DPAT were unclear, and we were not sure how to assess the launch. Although this decision was a serious one, it was largely based on the personal judgment of the DPAT supervisory manager.

Similarly, there were no clear criteria for requesting external support for DPAT, and we were at a loss. Finally, after consultation with the Okayama Prefectural Public Health Care Coordination Headquarters, Health Promotion Division, public health centers, and hospitals that were

dispatched to the DPAT advance teams, we decided not to request external support. It would be good to consult with the DPAT secretariat and get advice on whether to introduce external support, when to do so, and how many teams to request.

2. Establish a system for disaster response in the prefecture, and rules for setting up the coordination headquarters, informing each hospital of the preparations, and developing methods for communicating information.

Okayama Prefecture was hit by the disaster when it was still in the process of developing its DPAT system. Therefore, it had not yet decided on the composition of the coordination headquarters. In this regard, it is necessary to determine the priority of operations in the event of a disaster and to prepare for this in advance. In addition, psychiatric hospitals in the prefecture were not well informed about EMIS input, and there was insufficient provision of water and electricity for emergencies at hospitals. After the disaster, the DPAT Coordination Headquarters contacted the Disaster Countermeasures Headquarters to secure water, but it was difficult to get a response due to the confusion caused by the disaster. After that, we spent a lot of time contacting the Public Health Division and municipalities. In addition, when telephones were out of service due to a power outage, it was impossible to contact the hospital regarding the disaster situation and support needs, so in some cases we were finally able to confirm the situation by sending a DPAT team to the site. In addition, there were different requests from different departments regarding the support needs of the hospital; thus, it was thought that the development of a system within the hospital at the time of a disaster, such as the organization of a contact point for collecting information within the hospital and disseminating information outside the hospital, would be an issue.

3. Division of roles between the Coordination Headquarters and the Activity Center Headquarters

The DPAT Coordination Headquarters was set up in the Okayama Prefectural Office in Okayama City, although Kurashiki City was the center of the disaster relief. The distance from the Okayama Prefectural Office to Mabi Town in Kurashiki City, the disaster area, is about 30 km. However, because the DPAT was organized on a small scale, with only an advance team and a coordination headquarters, the advance team became a patrol team, visiting evacuation centers in and around Mabi Town and reporting to the coordination

headquarters.

In retrospect, it would have been better to set up an activity base headquarters in Kurashiki City, which is closer to Mabi Town, and receive reports on the cases from the patrol teams there. The reasons for this are: 1) a health care coordination headquarters had been set up at the Kurashiki City Public Health Center, 2) the public health nurse team also held information sharing meetings at the Kurashiki City Public Health Center, and 3) it would have been more efficient to coordinate close to the disaster area in order to understand the support needs of the disaster area and to respond to urgent requests for assistance. Although it was difficult to set up a base headquarters with the manpower available, it would have been possible with the cooperation of psychiatric institutions in the prefecture. In the event of a major disaster, it will be important to call for the cooperation of psychiatrists.

4. Appropriate information sharing with DPAT Secretariat (Tokyo) and the MHLW

At the time of the disaster, the DPAT secretariat and the MHLW frequently contacted us to ascertain the situation, and we spent a lot of time responding to them, which was time-consuming.

In this regard, it would have been better to have the DPAT Secretariat dispatch a liaison coordinator to take charge of liaison between the DPAT Secretariat and the MHLW. This would have allowed the coordination headquarters to concentrate on supporting the affected areas. The DPAT Coordination Headquarters in the disaster area had a hard time deciding whether to request external DPAT and when to request it. Thus, for such critical decisions, it would have been more appropriate to consult with the DPAT coordinator dispatched from the DPAT Secretariat and get advice from him/her.

5. Develop a system for assessing the situation and making decisions in a chaotic disaster situation.

The issue that troubled us the most in this disaster was the flood of information. We could guess from the news and other sources that there were many evacuees, but in the beginning we received no requests for assistance or communication about them. Of course, this did not mean that there was no need to provide assistance. After a short delay, calls started coming in; however, the contents varied. There were requests for water and toilet supplies, requests for assistance from evacuation centers, requests for assistance from outside supporters, requests for advice on school counselors from school officials, inquiries from various

quarters including the DPAT Secretariat , and requests for interviews from the press. We had a hard time organizing the information because of sudden increase in requests. There was a lot of incomplete and inaccurate information about support needs, so we had to make comprehensive judgments by contacting the public health center, the DPAT advance team, the Okayama Prefectural Public Health Care Coordination Headquarters, the DMAT teams, and many other agencies. Necessary support information may have been lost in the process.

The DPAT Operations Manual 1) does not specify the specific personnel structure of the coordination headquarters; however, at least four people are needed, including a supervisor, a liaison and coordination officer, a record (chronology) maker, and a person who types records into a computer. Furthermore, as the staff were not able to respond to calls or participate in discussions or meetings at the same time, it would have been better to have at least six people. When patients in psychiatric hospitals are transferred to other hospitals, or when external support is requested, further response and coordination will be necessary. Therefore, the number of personnel will need to be increased considerably, for example, by having an external DPAT team assist in setting up the coordination headquarters. This point is summarized in Figure 1.

In addition to increasing the number of personnel, it is also necessary to prevent information overflow by organizing the information. There are several ways to achieve this.

1) Psychiatric hospitals should also prepare for disasters in advance. If they can survive the shortage of water and electricity in the immediate aftermath of a disaster, there will be less confusion in information gathering and support, which may otherwise be confusing. In addition, if the hospital's disaster preparedness system is in place, it will be easier to grasp the disaster situation and support needs, and the coordination of support at the coordination headquarters will be much more efficient.

2) If a base headquarters is set up and is in charge of coordinating the support needs of the affected areas and the dispatch of patrol teams, the coordination headquarters will be able to assess whether there is an excess or shortage of support needs in an affected area from the base headquarters, and make decisions on increasing or decreasing the number of support staff.

3) If there is a liaison coordinator from the Ministry of Health, Labor and Welfare or the DPAT secretariat, he or she can handle communication with them. Thus, it will be much easier to

control the amount of information.

In the event of a disaster, confusing information is received piece by piece, which may further aggravate a situation and lead to delays in support and increase the feelings of frustration and impatience of the victims and those involved. In addition, if a lot of information is received in rapid succession, the risk of omission or delay in communication increases. As a result, additional reminders have to be sent, further confusing the already congested flow of information. Thus, it is important to devise organizational structures and rules for information transmission, as described above, in order to keep the amount of information within a controllable range.

Conclusion.

In fiscal year 2019, one year after the torrential rains of July 2008, typhoon No. 19 and other torrential rain disasters occurred frequently, resulting in the collapse and flooding of many rivers. Thus, we have to assume that floods will occur somewhere every year. Typhoon No. 19 revealed that it is difficult for DPAT to provide external support when disasters occur simultaneously. As unexpected things happen one after another in a disaster, there is a limit to what can be done in advance. However, it is possible, to a certain extent, to establish a relief system, to clear up information confusion at an early stage, to collect appropriate and highly necessary relief needs from the field, and to provide assistance quickly. It is necessary to control the volume of information, preparations for disasters, the appropriate division of roles between the coordination headquarters and the base headquarters, and communication with the DPAT secretariat. We believe it is necessary to prepare for these points in advance.

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Table 1

表 1　平成 30 年 7 月豪雨災害における DPAT 活動（DMAT および DHEAT など含む）

7月（日付）		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
		土	日	月	火	水	木	金	土	日	月	火	水	木	金	土	日	月	火	水	木	金
DPAT 調整本部	岡山県健康推進課 岡山県精神保健福祉センター	▲健康推進課に設置			▲岡山県保健医療調整本部に移動							▲備中保健所に移動										▲終結
DMAT 調整本部，のち，保健医療調整本部	岡山県医療推進課 全国からの DMAT など	▲医療推進課に設置			▲岡山県保健医療調整本部に移動							▲倉敷市保健所に移動						▲備中保健所に移動				
DHEAT	岡山県備中保健所 DHEAT						▲備中保健所に設置															
巡回チーム（避難所巡回）	岡山県精神科医療センターなど				▲活動開始																	▲終結

（来住由樹岡山県精神科医療センター院長作成資料より一部改変）

Table 2

表 2　巡回チームによる相談・診察のべ件数

	相談	診察
7 月 10 日	0	0
7 月 11 日	2	6
7 月 12 日	1	4
7 月 13 日	1	4
7 月 14 日	2	2
7 月 15 日	1	3
7 月 16 日	5	13
7 月 17 日	0	4
7 月 18 日	6	1
7 月 19 日	3	1
7 月 20 日	2	4
7 月 21 日	3	4
7 月 22 日	4	2
7 月 23 日	1	1
7 月 24 日	4	3
7 月 25 日	4	3
7 月 26 日	1	1
7 月 27 日	0	0
合計	40	56

Table 3

表 3　巡回チームの対応者の概要

診断名		主訴		年齢		性別	
F0（認知症など）	4	不安	18	20 歳未満	5	男性	25
F1（依存症）	0	抑うつ	7	20 代	1	女性	27
F2（統合失調症）	7	不眠	6	30 代	1	不明	1
F3（気分障害）	3	イライラ	2	40 代	11	合計	53
F4（適応障害など）	15	興奮	1	50 代	5		
F5（摂食障害など）	0	気分高揚	2	60 代	6		
F6（パーソナリティ障害）	0	幻覚妄想	2	70 代	13		
F7（知的障害）	4	身体の不調	3	80 歳以上	2		
F8（発達障害）	2	物忘れ	2	不明	9		
F9（思春期における障害）	0	その他	6	合計	53		
その他	1	不明	4				
診断なし	3	合計	53				
不明	14						
合計	53						

災害ストレスに関係した適応障害が多い．

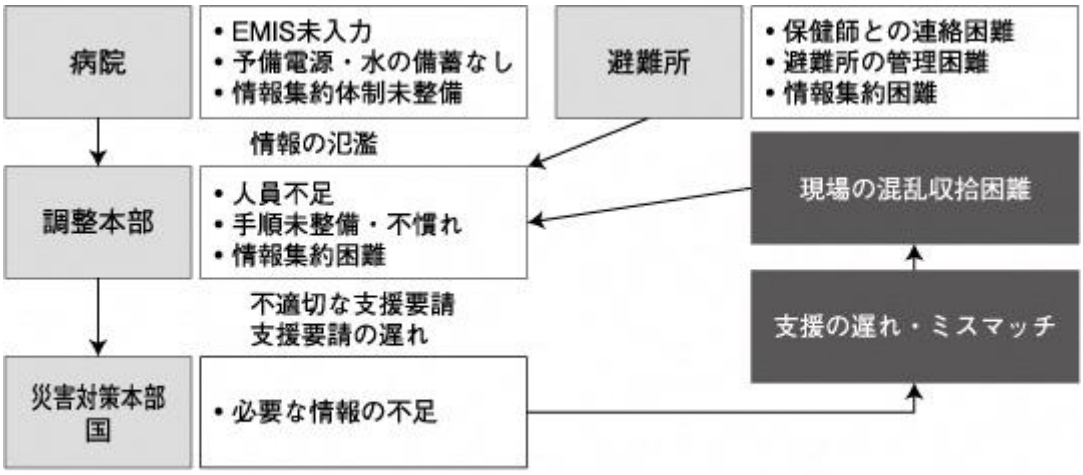

図　災害時の情報の混乱

Figure