Prevalence and knowledge of headaches among Japanese hospital workers

Headaches are a common disorder. Our hospital is a general emergency hospital located in the center of a suburban city in Japan. Our facility consists of 400 beds and 532 workers. The Department of Neurosurgery and the Headache Clinic at our hospital initiated clinical services five years ago. Data regarding the prevalence of headaches among hospital workers are scarce. Hospital workers are often assumed to have more knowledge concerning various common health issues, including headaches. However, the knowledge regarding headaches among hospital workers has not yet been reported. Therefore, we investigated the prevalence of and knowledge regarding prophylactic drugs and medication overuse causing headaches among workers at our hospital.

We sent original hard-copy questionnaires to all 532 workers at our hospital in June 2013. The prevalence and severity of headaches was evaluated using the Japanese paper version of the Headache Impact Test (HIT)-6. The total score was determined, with a minimum score of 36 and maximum score of 78. A HIT-6 score of more than 50 was defined as indicating the presence of headaches, while that above 60 was defined as indicating severe headaches. A total of 404 (75.9%) questionnaires were returned, of which we excluded 18 incomplete questionnaires for further analysis. Hence, 386 (72.6%) valid questionnaires were analyzed. The workers included 198 nurses, 43 physicians, 11 pharmacists, 47 medical technologists, 68 clerical workers and 19 others. There were 79 males, 266 females and 41 with unidentified gender. Headaches were present in 219 (56.7%) subjects and severe headaches were present in 77 (19.9%) subjects. According to the multivariate analysis, a female sex was identified to be a significant risk factor for headaches (odd ratio: 2.1, Table 1) and severe headaches (odd ratio: 5.9, Table 2).

Among the 219 headache sufferers, only 70 (32.4%) had visited a clinic for treatment. The most frequently visited facility was the Department of Neurosurgery (30, 42.9%), while only 11 (15.7%) of the subjects had visited a headache clinic. Among the 146 headache sufferers who had not visited a

Table 1: Multivariate analysis of risk factors for headache

		Odd ratio	95% confident interval	p-value
Age	20-29	1.000		0.461
	30-39	1.046	0.602-1.815	0.874
	40-49	0.760	0.405-1.426	0.392
	50-	0.658	0.344-1.256	0.204
Sex	female	2.106	1.185-3.744	0.011*
Job	nurse	1.070	0.653-1.754	0.788

*p<0.05

Table 2: Multivariate analysis of risk factors for severe headache

		Odd ratio	95% confident interval	p-value
Age	20-29	1.000		0.044
	30-39	2.442	1.214-4.912	0.012*
	40-49	1.995	0.904-4.403	0.087
	50-	1.028	0.408-2.587	0.954
Sex	female	5.940	1.967-17.936	0.002*
Job	nurse	1.134	0.618-2.081	0.685

*p<0.05

clinic, 88 provided an explanation of the reasons. They were, 67 (76.1%) of the subjects were taking over-the-counter (OTC) analgesics and 11 (12.5%) subjects stated that they were busy and had no time to visit a clinic. Among the 219 total headache sufferers, 171 (80.7%) were unaware of prophylactic drugs for headaches and 155 (73.5) had no knowledge regarding medication overuse.

In the current study, we used an HIT-6-based questionnaire to evaluate the incidence of headaches as reported by the participants. The HIT-6 has been shown to be easy to answer and reliable[1], and the HIT-6 scores have been demonstrated to be significantly higher in patients with migraines.[2] Additionally, the Japanese version of the HIT-6 is reported to be as reliable as the original English version.[3]

The rate of severe headaches noted in this study was higher than that reported in the general population in Japan (8.4%).[4] This indicates that Japanese hospital workers frequently suffer from headaches, more so than the Japanese general population. This difference may be due to three factors seen in hospital workers; i.e., female predominance, a large proportion of workers in their thirties and stressful working conditions. We did not find the type of job to be a risk factor for headaches in this study, whereas a female sex and age in the thirties were identified to be significant risk factors. In addition, most emergency hospital workers have night duties. Moreover, hospital workers are responsible for improving patients' health, and simple mistakes may result in life-threatening complications. Hence, Japanese hospital workers are under continuous stress.

In this study, only 32.4% of the headache sufferers had visited a clinic for treatment. Nagai and Sato reported that, in their study, only 25.5-29.1% of migraine patients working in a hospital visited a clinic for treatment. Meanwhile, 61.7-69.2% were taking nonsteroidal anti-inflammatory drugs (NSAIDs) or OTC analgesics, whereas the use of triptan medications was rare.[5,6] Headaches are a common symptom, and the severity of migraines is not easily understandable for people who do not experience these headaches. Most hospital workers have daily duties, and unscheduled absences from work are often avoided. Furthermore, hospital workers are familiar with oral analgesics, and many OTC drugs are easily available. As a result, medication overuse for headaches is frequently seen among hospital workers. Sakai also reported low rates of doctor attendance and high rates of OTC use in the Japanese general population in 1997.[4] OTC drugs remain widely promoted and easily accessible; this situation has not changed for nearly 30 years.

In the current study, 80.7% of the headache sufferers were not aware of prophylactic drugs for headaches and 73.5% did not have adequate knowledge regarding medication overuse causing headaches. Despite being hospital workers, such knowledge was limited among our study cohort. Furthermore, there are no previous reports assessing the knowledge of preventive medications for headache and medication overuse; hence, this is the first report of such findings. In our hospital, we sometimes provide educational materials to patients and hospital workers using periodicals and websites. In addition, we occasionally offer educational lectures on chronic headaches in and out of the hospital for hospital workers and the public. Providing public education for both patients and the general population as well as hospital workers is necessary to reduce the incidence of headaches and inappropriate use of medications, and promoting appropriate treatment and education regarding headaches among hospital workers would be beneficial with respect to clinical outcomes and cost benefits for both patients and hospital workers.

In summary, this survey among workers in a Japanese hospital showed that headache was common. Among the headache sufferers, only a third had visited a clinic for treatment. Most of the headache sufferers were not aware of prophylactic medications for headache, and the danger of medication overuse resulting in headache.

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