

Review Article

## Sudden Nocturnal Death Syndrome (SUNDS) - Global Perspectives

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### ABSTRACT

**Background:** Kav LaOved - Worker's Hotline is a non-profit organization which aims to protect the rights of the most disadvantaged workers in Israel, addressing violations through individual assistance, advocacy, outreach and more. SUNDS also called as Sudden Arrhythmic cardiac Death Syndrome (SADS), which is due to multiple causes, was studied among agricultural workers (from Thailand) who have migrated to Israel.

**Objectives:** To review the phenomenon of Sudden Nocturnal Death Syndrome (SUNDS) and the various factors that may be associated with it. Issues that need to be addressed: A high level of political commitment is needed to maintain the standards of working conditions among the migrant workers. Promoting the establishment and enforcement of adequate legislation; and establishing and implementing on-going and effective monitoring of the working conditions and health status of the migrant workers.

**Objectives:**

1. To study the phenomenon of Sudden Nocturnal Death Syndrome (SUNDS), and to identify the various factors that may be associated with it
2. To review literature on this topic with a focus on possible strategies and interventions for its prevention;

**Key Words:** Sudden Nocturnal Death Syndrome (SUNDS), Sudden Arrhythmic cardiac Death Syndrome (SADS).

### BACKGROUND

**Kav LaOved – Worker's Hotline** is a non-profit organization which aims to protect the rights of the most disadvantaged workers in Israel, addressing violations through individual assistance, advocacy, outreach and more

**Goals & strategies**

- **Protection and realization of workers' rights**, especially for more vulnerable groups such as migrant workers (including agricultural workers and caregivers) Palestinian workers, asylum seekers,
- **Strategies to address the problem** (including direct assistance and

advocacy in individual cases; political advocacy; litigation, providing information and raising awareness for workers' rights; etc.)

**Sudden Nocturnal Death Syndrome (SUNDS)**

- Sudden Arrhythmic cardiac Death Syndrome (SADS)
- In the Philippines, where it is referred to in the vernacular as *bangungot*
- *Among Agricultural workers (Thailand)*
- In the context of Dahlgren and Whitehead's model of social determinants which influence the health of individual -Work stress, migration/acclimation stress, no access

to information about rights, no access to health care in rural areas, no care from employers, living conditions, climatic conditions, problem of language, nutrition (i.e. malnutrition such as insufficient intake of thiamine or potassium), alcohol, working hours, sleeplessness, exposure to pesticides, no Personal Protective PPEs

## REVIEW OF LITERATURE

### Global Prevalence of the Sudden Nocturnal Death Syndrome

Apart from Israel, the cases of sudden death syndrome among Thai workers have been seen in other parts of the world such as Singapore. According to a study a total of 235 cases has been reported during 1982 to 1990, most of the cases occurred during the sleep and the average age being 33 years and time period from arrival till death being 8 months. Few abnormal findings have been reported in postmortem report including moderate to severe intra alveolar hemorrhages, anomalies in cardiac conduction system and myocarditis or pneumonitis- some of the investigations which were conducted included detection of *Pseudomonas pseudomallei* which is generally seen associated with sudden unexpected death syndrome was inconclusive. No significant abnormalities were detected in electrocardiographic examination. No evidence of thiamine or potassium deficiency was found among the cases. Some of the factors hastening to the cause of sudden death syndrome are thought to be due to psychological problems arising due to maladjustment to urban environment, staying away from family, debts in home country, long hours of work and stress. [1]

Similarly hundreds of cases were recorded in United States since 1977 among the Laotian Hmong refugees. Mostly healthy men within the median age of thirty three had died during sleep. Though numerous studies have been conducted, the exact cause of sudden death syndrome remained unsolved. Some medical

professionals favor the idea of likely impairment of electrical pathways and specialized muscle fibers that help in contraction of the heart, though there is no conclusive evidence to support the idea. Some of the folklorist theories include supernormal nocturnal experience triggering the syndrome. However there is a recording of universal nightmare phenomena, which may have been caused due to the inability of Hmong refugees to practice their traditional cultural practices, migration or trauma due to war causing physiological stress among the refugees. [2]

Based on autopsy data collected in Southern China from 2001–2006, 975 cases of sudden unexplained nocturnal death syndrome (SUNDS) were surveyed. [3] Genetic screening of *SCN5A*, the gene encoding the voltage dependent cardiac Na channel, was performed in 74 available SUNDS cases.

The occurrence rates of SUNDS among Southeast Asian populations need further clarification. In northeast Thailand the annual mortality of death was reported to be 38 per 100,000 people aged 20–49, [4] which is the highest reported incidence in the world. In Israel, there are approximately 22,000 migrant laborers in the agricultural sector; a figure comprises around 35 percent of workers in the agricultural sector. These agricultural workers are recruited primarily from Thailand. [5]

After a pilot scheme with Sri Lanka in 2010, in 2011 Israel signed its first bilateral agreements for employment in agriculture with Thailand and Sri Lanka. [6] Israeli Knesset member Dov Khenin of the Hadash party said it was “inconceivable that so many healthy young men die without alarms going off.” [7] (Israel Sopemi Report Immigration in Israel 2010-2011) [8]

IRIN (Integrated Regional Information Networks) reported cases of some workers living at a potato crop disposal site, in a small, stifling container, during their visit to one of the farms. Workers told IRIN they cannot leave as they

must pay off huge debts in their home countries. [9]

In a series of posts based on field visits and meetings with migrant workers in Israel, NoaShauer and Shiraz Grinbaum highlight the conditions, hardships and exploitation of foreign workers. Thai agricultural workers in KfarVarburg show ‘Kav Laoved – Workers’ Hotline’ their substandard living conditions and tells of their exploitative wages and working conditions. They met a group of Thai workers at their residence – the backyard of their employer’s villa.

None of the workers have details on their health insurance nor do they hold a membership card from an Israeli health maintenance organization, which is necessary to receive treatment. The second major complaint was their living conditions. After the meeting we visited different farms in the village. The first structure populates nine workers and has one toilet and one shower. The kitchen is improvised, bedrooms are tiny and some don’t even have a closet. The workers told that they tried to talk with their employer about mold in the shower and the floors, but he didn’t respond. In the third structure the workers improvised a kitchen, which is outside in an open space. They cook and eat their meals there regardless of the season and weather. [10]

Similar cases were seen in other countries such as United States which were unable to tackle the situation. Migrant and seasonal farmworkers are essential to North Carolina agriculture, yet they experience major health risks. This commentary describes the characteristics of North Carolina farmworkers, important hazards they face, and the status of regulatory protections. Finally, it presents a summary of policy needed to protect the health of farmworkers. [11]

Immigration policy reform is needed. Regulations are needed that require occupational safety training that is linguistically and educationally appropriate for farmworkers. [12]

Between 1 and 3 million migrant farm workers leave their homes every year to plant, cultivate, harvest, and pack fruits, vegetables and nuts in the U.S. While not always making headlines, reports of injustice and abuse against farm workers abound including those of opportunistic crew leaders, substandard housing, violence against farm workers by community members of the dominant culture, exclusion from labor laws, inadequate housing, pesticide violations, and the inferior education of children of farm workers. This lack of legal status sets the stage for farm workers’ lack of voice, agency and advocacy – in essence it creates their invisibility. [13]

Workers are typically housed in bunkhouses or trailers, or in farmhouses or “instant” homes. The Employment Agreements require that accommodations be inspected annually to ensure that they meet provincial health standards for occupied dwellings (including water safety), a task normally undertaken by municipal health inspectors following Ministry of Health guidelines. The Governments of Canada and Ontario should conduct workshops and public forums in rural Ontario communities to promote greater awareness of the migrants’ economic and social rights and their contributions to host communities and to promote greater cultural understanding. [14]

Some of the best interventions include cooperation between the Israel government and Thailand government, on the number of workers they will be requiring each year removing the necessity to rely on private agencies. Making it more centralized and decreasing the chances of getting trapped by some sinister private manpower agencies.

Active participation of NGO’s such as workers hotline (Israel) and non-profit media by bringing the health situation of Thailand workers to parliament attention and trying to bring policies to improve the living conditions of Thailand agricultural workers.

## ISSUES THAT NEED TO BE ADDRESSED

- A high level of political commitment is needed to maintain the standards of working conditions among the migrant workers.
- Promoting the establishment and enforcement of adequate legislation for proper inspection regarding the working conditions of migrants by conducting interviews regularly with the workers along with the employers and taking necessary actions as and when required.
- Raising awareness about the possible ways to cope with work stress conditions and after effects of unhealthy lifestyle which might be leading to ill health or possible cause of sudden nocturnal death syndrome.
- Establishing and implementing on-going and effective monitoring of the working conditions and health status of the migrant workers.
- Urging the Ministry of Labor and the Ministry of Agriculture to increase enforcement of labor standards (e.g. regarding protection from occupational hazards incl. pesticides).
- Working conditions-enforcing laws
- Providing health education and proper access to nutritional food stores or attracting local entrepreneurs to supply nutritional food to migrant workers at a reasonable price.

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