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Risk Behaviors of Industrial Workers

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Introduction

"From the year 2000, all Thai people will be healthy" is the target of the Ministry of Public Health Policy. Today,Thailand is a newly industrialized country. In the large cities the expansion of manufacturing process has occurred and so as the demand for factories grown. Unfortunately, the high risk factors of health has also increased. So people, both workers and employers, should be made aware of the risk factor and safe care through positive health promotion programme to advise a healthy workforce. This wiil save money being used on high technological medical equipment and reduce the price of health care. This study dealt with health prevention and early prediction. The object of this study is to identify the risk factors and perceptions on the health status of factory workers, outline health care patterns, and give reasons for health seeking behavior.

Subject and Study Population

The population covered by this study was the 3,191 workers of a shoe-making factory in Bangkok, 75% of the workers were female, had completed primary school and average income of about 4,685 bath per month .

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Method

Firstly, to identify the risk factors and self care management. 6 focus group discussions and 24 informal interviews were undertaken. Secondly, the medical records of the work-place clinic at Ramathibodi Hospital were reviewed, aiming at describing the pattern of common illnesses and linking them with the results from the first step. Finally a survey of 300 people was conducted to find the magnitude of the problems discovered from focus group discussions.

Analysis

Content analysis was used to analyse data from the focus group discussions and informal interviews. For survey data, frequency counts, cross tabulations and the Chi-square tests, were employed, with the criterion for rejecting the null hypothoses set at 0.05 level of probability.

Results

Risk factors

1) Risk of Sexually Transmission Diseases. (STD [AIDS])

The result from the focus group discussions revealed that among this group of population, males had multipartners and females responded that premarital sex was acceptable. This result is confirmed by the questionnaire survey which showed that 56.34% of females and 40.16% of males responded that premarital sex was acceptable, and statistically significant at 0.05 level.

Participant one : Women and men have premarital sex to help them to learn more about each other habits. When they can no longer live together, they say goodbye.

Table 1 Risk of Sexually Transmission Diseases among Male and Female Worker

Risk behaviors	Male		Female		
	Number	Percent	Number	Percent	
Multiple partner					
Yes	26	18.3	6	4.4	
No	116	81.7	131	95.6	
Total	142	100.0	137	100.0	
$\chi^2 = 11.99$; df = 1; P <0.05					
Premarital sex					
Want to try	29	22.8	8	5.6	
Unacceptable	47	37.0	54	38.0	
Acceptable	51	40.2	80	56.3	
Total	127	100.0	142	100.0	*
$\chi^2 = 18.04$; df = 2; P <0.05					
Perception of likelihood of getting AIDS					
Minimal	117	80.1	112	74.7	
Possible	16	11.0	17	11.3	
Probable	12	8.2	19	12.7	
Most likely	1	0.7	2	1.3	
Total	146	100.0	150	100.0	
$\chi^2 = 1.97$; df = 3; P >0.05					

* Percent does not add up to 100 due to rounding errors

Participant two : Perhaps, if they went to a disco-theque last night, tomorrow they will not go to the factory. They tell me about their behavior the previous night because we are close.

From the informal interviews, it was found that 7 out of 16 of the interviewees had risk behaviors (behavior which lead them easier to contact STD). We could classify risk behavior into to 2 groups. The first group, the risk factor was from their spouse's behavior, for example, their husbands had sex with other women and did not use a condom, so he could contact STD from that woman. The second group, the factor was themselves; for example, although they were unmarried, they had multipartners. From medical records in Ramathibodi Hospital we found HIV positive in one out of 24 workers who were admitted to the hospital. So, transmission of sexual disease is a risk factor for the workers at this factory. Specially, it is the result of lack of awareness by them because, almost of all of them thought that the risk of getting AIDS was minimal, (male=80.1%, female=74.7%,). However, there was no statistically significant difference among male and female workers perception on the likehihood of getting AIDS.

2) Risk of Non Communicable Diseases. (NCD)

Alcohol drinking

From focus group discussions, it was found that alcohol drinking was a habit of both sexes. The results showed the norm about drinking habits of this community. Finally, alchohol drinking leads to behavior which is refered to the results from the STD evidence. When females drink at the birthday of their friends, they prefer to go to a disco-theque, rather than to home after. This event lead them easier to have sexual contract.

Participant one : If today is the birthday of one of our friends, we will meet and drinking is an enjoyable activity for our group.

Participant two : Not every day. We drink when we have a birthday party. After we drink we like to go a disco-theque. Instead of going back home, we will go to our friends home.

In this situation, it is easy for females to have premarital sex because it is acceptable for this group. For males, they drank on the weekend or the end of month because they had received their salary. They also drank alcohol when they were alone.

Participant one : For men, we meet almost every weekend, the day we receive our salary.

Participant two : Although we drank last night, tomorrow, we can work in the factory. So it does not interrupt our work.

Participant three : Not only on the weekend or the end of the month, but I will drink when I feel lonely too.

Participant four : I always smoke while I drink .

The questionnaire survey also showed that majority of both sexes drink. (male=79.1%, female=50.3%) and, they often drank at a party (male=46.9%, female=75.3%; table2). Unfortunately, in the past, alcohol was accepted as a social activity, even though it can cause the drinker have medical disease problems, and it is related to smoking .

Smoking

Although most of the male workers knew about the disadvantages of smoking (lung cancer=11.6%, emphysema=30.4%, general health hazard= 34.8% and other illness= 20.5% ; table 2), the participants from the group admitted that they smoked. They always smoked after meals or when they had stress. The frequency of smoking was about 10 cigarettes per day. Some of them have tried to stop, but if they see someone have lit a cigarette they will want to smoke and often return to smoking again.

Participant one : I try to stop smoking, but when I see someone smoke I want to do it too.

Participant two : I want to stop smoking, because, today, there is a campaign for nonsmoking, but people around me do not support me to stop smoking.

The questionnaire survey found that there were 42.9% male and 4.0% female smokers. (table 2.) The evidence of the smoking in this group was the same as the incidence in the general population (male=43.2 % and female= 2.5%). (National Statistic Office, 2536)

So the employers ought to give priority to the nonsmoking campaign by having the personel department approaches the workers. The employers should screen new workers for nonsmoking.

Table 2 Alcoholic Dringking and Smoking Habits among Male and Female Factory Workers

Habits	Male		Female	
	Number	Percent	Number	Percent
Alcoholic drinking habits				
Drink	117	79.1	76	50.3
Teetotaler	31	20.9	75	49.7
Total	148	100.0	151	100.0

$\chi^2 = 25.71$; df = 1; P <0.05

Table 2 (Continous)

Habits	Male		Female	
	Number	Percent	Number	Percent
Time and frequency of drinking				
After working	16	11.0	1	1.2
Irregular	42	29.0	15	18.5
At party	68	46.9	61	75.3
At the end of month	14	9.7	4	4.9
Daily	4	2.8	0	0
Weekly	1	.7	0	0
Total	145	100.0	81	100.0 *
$\chi^2 = 40.83$; df = 5; P <0.05				
Smoking status				
Non-smoker	10	6.0	124	82.1
Ex-smoker	31	18.4	18	11.9
Smoker	72	42.9	6	4.0
Contemplator	55	32.7	3	2.0
Total	168	100.0	151	100.0
$\chi^2 = 202.57$; df = 3; P <0.05				
Perceived disadvantages of smoking				
General health hazaid	39	34.8	5	38.5
Lung cancer	13	11.6	3	23.1
Emphysema	34	30.4	3	23.1
Other illness	23	20.5	2	15.4
Don't know	1	0.9	0	0.0
No harzard	2	1.8	0	0.0
Total	112	100.0	13	100.0
$\chi^2 =$; 5.15; df = 5; P >0.05				

* Does not add up to 100 due to rounding errors.

Helmet use

Because most of the workers live near the factory, they went there by motorcycle and generally do not use a helmet. But the study found that both sexes use helmets when they go to the provinces or for long distance travelling (male= 54.17, female=45 %; table 3). Focus group discussions showed that females, who went to the factory by motorcycle did not wear a helmet because it made them feel uncomfortable, not look attractive and they could not hear anything. Most of the male wore Semi helmets because they thought Semi helmets would protect them from the dust.

Participant one : I do not like to wear a helmet because it makes me feel heavy, and not look beautiful.

Participant two : I like to wear a semi helmet, because I can move my head easier than using a full helmet, and it can protect me from the dust.

The questionnaire survey showed the workers were of the opinion that helmet use is advantageous. They thought that it could prevent head injuries (male=60.7%, female= 60%; table 3) or dust (male=29.51%, female 22.5%; table 3). Helmet use is required by law and it can prevent the incidence of head injuries from an accident on a motorcycle. According to the data, it is not usual for workers to wear a full helmet, So health promotion in this issue should be a major concern.

Table 3 Helmet Use among Male and Female Factory Workers

Helmet use	Male		Female	
	Number	Percent	Number	Percent
Helmet use				
Every time on motor-cycle	16	33.3	8	20.0
Only for long distance travel	26	54.2	18	45.0
Never	6	12.5	14	35.0
Total	48	100.0	40	100.0
$\chi^2 = 6.65$; df = 2; P <0.05				
Opinion about helmet use				
Cumbersome	5	8.2	4	10.0
Disturb heir dren	1	1.6	0	0.0
Rather useless	0	0.0	3	7.5
Prevent head injuries	37	60.7	24	60.0
Prevent dust or other	18	29.5	9	22.5
Total	61	100.0	40	100.0
$\chi^2 = 1.55$; df = 4; P >0.05				

Perception of health status

From the records of the work-site clinic, we found that most of the workers want primary care. The six most common problems were upper respiratory infection (URI), wounds, rashes, diarrhea, headches and, the same as medical records of Ramathibodi Hospital. It also showed that these problems were not severe (Fig 1.), but also that some of them could have been prevented.

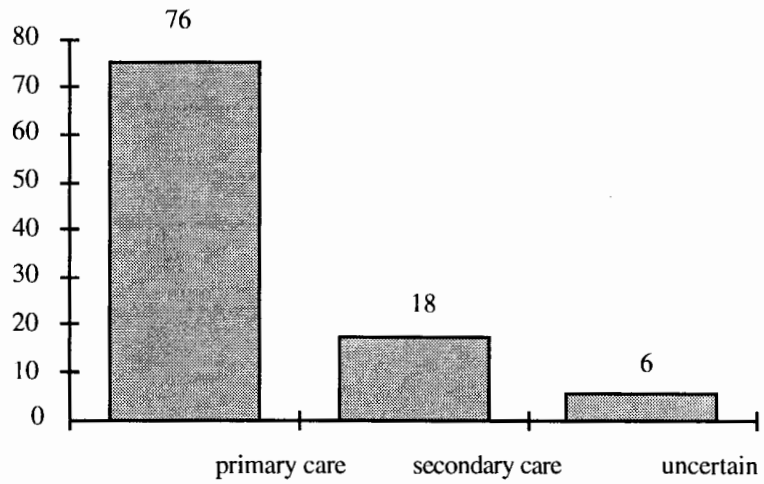

Figure 1. Type of illness of workers attending the outpatient service at Ramathibodi Hospital (Jul.-Nov. 1992, n=187 cases) percent

The focus group discussions showed that, the workers did not think that their health status was serious, so they were not aware of preventable disease in this group. For example, the workers perceived that if they had signs and symptom of rashes after they worked here, they thought that it was caused by directly touching the material. But in practise, they did not wear gloves or wash after working. The real cause of diseases was unclear from this study. We could not find supportable data to establish what is the real cause. In order to search for a solution, the research methods need to be planned for a clear conclusion on this issue. However, rashes were not a great problem in the thoughts of the workers. But gloves use still should be the promotion aim.

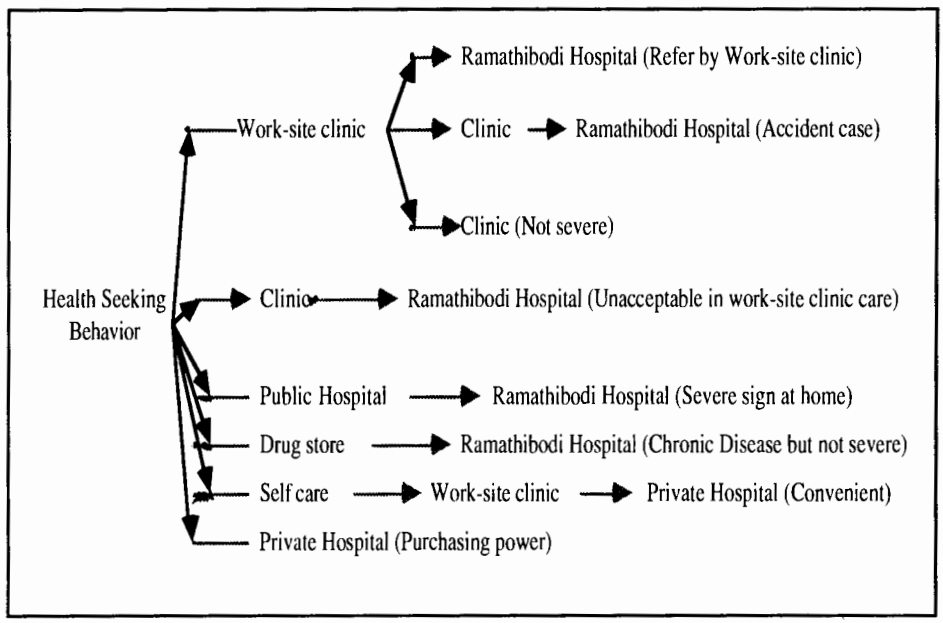

Figure 2. Patterns of health seeking behavior

Health care patterns and reason for health seeking behavior

The pattern of health seeking in this group had many forms, because, there were many sources of health care services for this group. We found that, there were 8 patterns or 6 ways of seeking behaviors in the workers. (Fig 2.) The reason of each pattern showed in the focus group discussions. In not severe cases, the workers liked to visit the clinic for its convenience or treat themselves if they did not like the work-site clinic. They did not visit a private hospital even if they had enough money. In severe cases, they went to the work-site clinic in the first instance, then they were refered to a contact hospital by the personnel department.

Participant one : I once visited St. Louise Hospital because I had a injury to my right hand . The personnel staff sent me there. But I would not visit there by myself .

Participant two : If I have a cold I do not visit the work-site clinic. The nurse would not give me the drug that I believe could make me better. So I visited a private hospital.

Participant three : I agree with my friend that I never visit the work-site clinic because I prefer to go to the drug store by myself. When I have a severe problem I would visit Ramathibodi Hospital for treatment.

Participant four : I once visited Rama too. But, in my case, I had had an accident in the factory. My friend took me to the work-site clinic but they could not take care of me. So, they refered my case to Ramathibodi Hospital for consultation.

Participant five : I donít like to visit to Ramathibodi Hospital because I have to spend a lot of time in queuing. I like to take care of myself. If it is necessary, I go to the work-site clinic. Finally, I would prefere to visit to a private hospital, even though I would have to pay.

Discussion

It is the aim of Ramathibodi hospital to encourage health care prevention and promotion in the factory. The result shows that the risk factors affected long term diseases, for example, lung disease from smoking and cancer of the liver from alcohol drinking. We found the norm for this community for premarital sex made us aware of AIDS transmission disease.

The data confirmed our concern by finding HIV positive cases amongst the workers at Ramathibodi hospital. The situation of AIDS transmission in this case is similar to other research which has found the same thing. The study of Campbell B. et al, (1994 : 245-50) amongst adolescent boys in Zimbabwe had found multipartner behavior in this group, (63/511); only 6 boys reported having intercourse with a commercial sex worker. The Ramathibodi study shows the unawareness of the risk factor to the workers, who could come into contact with HIV infection. So they can not know, the right way to solve this problem. We also found this point in

other research that showed contrast between perception and behavior. Archibald, et al. (1994:268-72) studied sex workers. The study showed that sex workers had knowledge about STD prevention, but they did not change their behavior by using condoms.

The same finding showed in the study of "knowledge, attitudes and activities of male clients of female sex workers : risk factors for HIV". (Chetwynd et al., 1994: 351-3). It showed that knowledge about HIV transmission was high, but perception of HIV risk or fear of infection was low. The findings suggested that clients may be a source of HIV infection of both sex workers and their other sex partners. The risk of STD was the health problem concern in female workers because of their husband having sex with the other women. This was the communicative way for them to bring the disease to their spouses. In the study of Nelson, et al. (1993:955-960), the study of risk factors for HIV infection among young adult men in northern Thailand, shows that 12% of 2,417 men were HIV- seropositive at baseline. History of sex with female commercial sex workers was frequent. In the study of "STD knowledge and behavior among clients of female sex workers in Bali", (Fajans et al., 1994:459-75) the clients practised a variety of ineffective prevention strategies, including a very low frequency of condom use.

The spread of the HIV problem has high cost. Other studies which show the result, cost which includes disability payment, employee replacement, life insurance and pension costs to a business of an HIV - infected employee. The minimum expected five -year cost to a business from for an HIV-infected employee was estimated at $ 32,000 with an average expected cost of $ 17,000. (Farnham et al., 1994:76-88) This cost, which were affected by the changing roles of employer-base health insurance, cost shifting, and public program, would influence how employers react to the epidemic and how preventive initiatives. (Farnham et al., 1991:663-6)

Not only HIV infections disease was a risk factor for workers in factory, but alcohol and smoking are also the risk factors for this group. The relationship of

alcohol and STD (AIDS) were close. Study of Ross MW. et al. insisted that the most common drugs on which people are intoxicated during sex are heroin, cannabis and alcohol. (1994:69-80). The alcohol habit is also refered to as a health problem which was showed in " Alcohol problem among patients attending five primary health care clinics in Harare city ". (Chinyadza et al., 1993:26-32). It showed 92 persons (92/483) were health problems. More current drinkers are threatened with STD and work-related injury. Although 60 of them had tried unsuccessfully to cut down or stop drinking 75% of drinkers stated that they drink to socialize or for recreational purposes.

Socialization was the weak point in this problem. In this case, if we can motivate the person to change their social attitude, we will solve the problem of the alcohol drinking habit which in turn indirectly solve STD too. Data of "Alcohol and other drug abuse among social work colleagues and their families: impact on practice" (Fewell CH et al., 1993:565-70) showed that 11% of adult were alcoholics and which this group reported as having a significantly highly impact on job function. The loss of productive ability made the employees inefficient in working, a lost of the employers income.

The alcohol drinking habit was not only related to STD, but also to smoking behavior. This finding is confirmed by the fact that while they were drinking, they were often smoking, although, the workers knew about the disadvantages of smoking. But the data showed that the social network makes it difficul for them to stop smoking. Smoking is related to causing workers to have illnesses. We could see the reason of this in the results of many researches. Zuskin et al. (1994:771-783) "Respiratory symptoms and lung function in bus drivers and mechanics", shows that workers who were smokers had significantly higher prevalences of respiratory symptoms than nonsmoking workers. The study of "the national sheet metal worker asbestos disease screening program" (Welch et al.,1994:635-648) shows the same result and that cigararettte smoking was found to increase the risk of parenchymal, and more modestly, pleural abnormalities. Smoking was shown to be a predisposing factor of asthma,

(Zuskin et al.,1994:771-83); lung cancer, (Lordi,1993:147); urothelial tumors, (Bardana 1995:143-99); chronic respiratory symptoms, (Zuskin et al.,1994:771-83); the material of product such as chemical irritant, (Bardana 1995:143-99); CO from the working environment cotton (Lewis et al., 1992:262-8) and cotton textile dust (Zuskin et al., 1992:31-7.; Beck et al., 1984:33-43). Workers who smoked had significantly higher absenteeism than non smokers for any reason studied, including neck and upper extremity symptoms. (Dimberg et al., 1978:57-72). The result of "Worksite group meetings and effectiveness of a televised smoking cessation intervention." (Jason et al., 1978:57-72) insisted that at the work site, smoking accounts for increase health care expense and worker absenteeism due to smoking-related illness, resulting in reduced productivity and lost wages.

Stop smoking is the campaign that most countries promote for healthy workers. It is one of the strategies which was popularized and should be useful for health promotion program in work site setting. The profit of result in this campaign showed in the research "Will quitting smoking help Medicare solve its financial problem ?". (Wright VB, 1986:76-82). The net effect of each male smoker who quited at the age of 45 increased the present value (in 1980 dollars) of hospital insurance fund's net expenses by between $ 204 and $ 2,745, depending on the discount and interest factors used.

Premarital sex and the abuse of smoking and alcohol drinking were the health promotion issues in the work-site setting which the employers should encourage employees to participate.

Not wearing a helmet was the last point of the research. Although, we did not find great severity of injury by motorcycles, the data showed that most of the workers wore the helmet only while they were on long distance travelling. Only 1/3 of males and 1/5 of females usually wore the helmet on a motorcycle. The result of many researches found that a significant difference was noted in the severity of injury of

helmeted users of motorcycles, compared with those who wore no helmet. (Ding et al., 1994:24-8. ; Spence et al., 1993:214-6)

Specially, risk of head injury for worker, who did not use a helmet was greater than who use a helmet. The accident rate was less with motorcycle helmet legislation than without. The medical costs decreased altogether with the length of stay, (Mc Swam, 1990:1189-97). The results revealed significant decrease in helmet usage and significant increases in head injury and death. Evaluation of the financial impact revealed up to 200% increase in medical costs and increase in days of disability. (Mc Swam, 1984:233-6)

Wearing a safety helmet was described as inconvenient and uncomfortable. Planned health promotion will be essential for the introduction of motorcycle safety helmets to be successful. Those activities should focus particularly on developing a comfortable helmet and changing negative social norms regarding wearing a helmet.

Summary

The risk factors of the industrial workers in this factory had two major group of diseases (STD and NCD) from four issuers of risk factor (alcohol drinking habit, multipartner/ premarital sex, smoking, helmet using). The workers were not awarene of the long term health problems which was caused by their behaviors. So their behavior help in increasing this health problem. Because they did not practice the right way to prevent this problem.

The project of health promotion should be the concern for the employer to have the healthy workers and good production, as well as a employee would save on the cost of health care treatment and have enjoy good income from their result by efficient working.

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