A Study to Assess the Occupational Health Problems among Rubber Tappers Residing in Yettacode Village Panchayat, Kanyakumari District

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Abstract:

Occupational health is essentially preventive medicine. The Joint ILO/WHO committee on occupational Health, in the course of its first session, held in 1950, gave the following definition: "Occupational health should aim at the promotion and maintenance of the highest degree of physical, mental and social well being of workers in all occupations; the prevention among workers of departures from health caused by their working conditions; the protection of workers in their employment from risk resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological equipment, and to summarize, the adaptation of work to man and of each man to his job.(K. Park) **Statement Of The Problems:-**A Study To Assess The Occupational Health Problems Among Rubber Tappers Residing In Yettacode Village Panchayat, Kanyakumari District.**Objectives:-**To assess the common occupation health problems among rubber tappers in Yettacode village Panchyat. **Assumption:-**It is assumed that rubber tappers will have some health problems such as musculoskeletal disorders, abnormal lung function, Visual impairment, skin disorders insect bites etc..**Research Approach:-**Qualitative approach was used for this study.**Research Design:-**Descriptive (cross-sectional survey) design was used for this study.**Setting Of This Study:-**The study was conducted among rubber tappers in Yettacode village panchayat, Kanyakumari District. Yettacode village panchyat covers an area of 3 square kilometer and has a population of 5100. In that males are 2628 and females are 2472. Among this population approximately 600 peoples are rubber tappers.**Population:-**The target population selected for this study was rubber tapper's residing in Yettacode village panchayat, Kanykumari District.**Sample:-**The sample selected for this study was rubber tappers cutting more than 100 tress per day and residing in yettacode village panchayat, Kanykumari District.**Sample Size:-**The sample size of this study was

20 rubber tapper's residing in yettacode village panchayat, Kanykumari District.**Sampling Technique:-** Purposive convenient sampling technique was used for this study.**Results**: About 3(15%) of rubber tappers had eye injuries due to wooden dust during rubber tapping. About 17(85%) of rubber tappers doesn't had any eye injuries during rubber tapping. About 7(35%) of rubber tappers suffered with was sting during rubber tapping. About 1(5%) of rubber tappers suffered with rubber branch falling and about 12(60%) of rubbers tappers doesn't suffers with any injuries during rubber tapping.**conclusion :**This study demonstrates that high rate of occupational injury encountered by rubber tappers. Small workshops or classes conducted among the workers regarding ergonomic improvements that they needed to adopt in their working pattern will be highly effective. It will create an awareness among the rubber tappers regarding possible improvements that can be made.

Key words : Assess, Health , Problems, Rubber tapper ,

Introduction

Occupational health is essentially preventive medicine. The Joint ILO/WHO committee on occupational Health, in the course of its first session, held in 1950, gave the following definition: "Occupational health should aim at the promotion and maintenance of the highest degree of physical, mental and social well being of workers in all occupations; the prevention among workers of departures from health caused by their working conditions; the protection of workers in their employment from risk resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological equipment, and to summarize, the adaptation of work to man and of each man to his job.(K. Park)

Agriculture is considered to be one of the oldest occupations, perhaps as old as human civilization. Agriculture is the mainstay of Indian economy, has been and will continue to be the lifeline of the Indian economy at least in the foreseeable future. Approximately 2 billion people are engaged in agriculture and related work in the developing countries of Asia, whereas the developed countries contribution is merely 100 millions. In a country like India, large workforce is employed in diverse settings. There are 360 million workforces in India, of which 225 million in agriculture and 120 million are in industrial sector. (Dr.A.Sangamithra and P.Arun Kumar 2017)

According to the International Labour Organisation (ILO), the agricultural sector is one of the most hazardous to health worldwide. Agricultural work possess several characteristics that are risky for health; exposure to the weather, close contact with animals and plants, extensive use of chemical and biological products, pesticides,

difficult working postures and lengthy hours. The use of chemicals in modern agriculture has significantly increased productivity.

In the fourth report of the joint ILO/WHO committee on occupational health, an agriculture worker means any person engaged either permanently or temporarily, in activities related to agriculture, irrespective of his/her legal status .In India Ministry of Labor includes ploughing, sowing, weeding, transplanting, harvesting, cultivation, forestry, plantation, fisheries, and others as principal agricultural operations . Agricultural work is subject to the health risks inherent to a rural environment and at the same time to those deriving from the specific work process involved. This sector of activity being most unorganized, very little attention has been given to the occupational health problems of these workers; though the need of investigation and intervention towards these problems. These health problems of workers in agriculture may be accidents (machine injuries, snake and insect bites), toxic hazards (chemical exposures and insecticide poisoning), physical hazards (extreme conditions, solar radiation), and respiratory problems (farmer's lung, occupational asthma). (Vijay Kumar Manwani, 2012).

Plantation is one of the key sectors which have an impact on the economic growth of our country. One of the important plantation crops of India is Rubber. Rubber is a Brazil native crop introduced in India by the British; however cultivation in commercial scale were initiated as early as 1873. It plays a vital role in the National Economy. Rubber is an elastic substance made from sticky ,milky white liquid called latex extracted from the bark of the rubber tree (HeveaBrasiliensis) through a process called tapping. In the early years rubber was grown only in Kerala and Kanyakumari District in Tamil Nadu,which are the traditional rubber growing areas of the country. But currently, Rubber is also grown in Tripura, Assam, Meghalaya, Mizoram, Manipur, Goa, Coastal Karnataka, Orissa, Andhra Pradesh,Madhya Pradesh and West Bengal. India is the sixth largest producer and consumer of natural rubber in the world, an annual production of 774,000 tonnes. In the Indian production, Kerala contributes more than90%, Tamil Nadu 4% followed by Tripura, and other rubber producing states.(Benita 2018).

Kanniyakumari District is the Southernmost tip of the Indian Peninsula and a unique place where trisea namely the Indian Ocean, the Arabian Sea and the Bay of Bengal confluences The total geographical area of this district is 1672 square kilometers. As per the 2011 Census, the total population of this district was 1870374 out of which, 926345 males and 944029 females. . Kanniyakumari district is the smallest district in Tamil Nadu. . This small district is famous on its vast green stretches of paddy fields, coconut groves, Rubber garden and

luxurious forest.The district has horticultural crop area of 65804 Hectares, in which Plantation Crops (84%) occupies major area and followed by Fruits (10%), Spices (3%), Vegetables (1%), Flowers (0.2%).Rubber is the major growing region consists of 28060 Ha, followed by Coconut (24573 Ha), Banana (4218 Ha) etc. There are six taluks namely, Agastheeswaram, Thovalai, Vilavancode, Kalkulam, Killiyoor and Thiruvattar. Among the six taluks Thovalai, Vilavancode, Kalkulam, Killiyoor and Thiruvattar taluks cultivates rubber. In that Thiruvattar, Kalkulam and Vilavancode taluks cultivates more rubber comparing to others. Rubber cultivation covers more than 70000 acres of land. Nearly 2 lakhs of people benefited directly or indirectly from this. (Satistical yearbook 2021)

Rubber farmers are agricultural workers who play an essential role in the economy and labor market. They are considered as informal sector-workers as they have a low job security, low income, no access to a range of social benefits, and fewer possibilities to participate in formal education and training programs. However, rubber farmers have experienced many hazardous exposures at work. They have faced physical hazards including inadequate light when tapping rubber trees at night. Such an inadequate light can cause visual strain and discomfort. They are also prone to chemical contamination such as ammonia, sodium sulphite, formic acid, acetic acid, and herbicides. These chemicals are harmful to workers' health,specifically to their skin and respiratory function. In addition, several biological hazards such asvicious animal and mosquitoes are usually found in the humid areas of rubber plantations. Withregard to psychosocial hazards, rubber farmers may also experience anxiety, distress, or stress due to their working conditions. Rubber farming is also a physically demanding occupation. Generally, the hazards in the rubber farmer's working process can adversely affect their health either acute or chronic. (T. Shammy,and Dr. S. Jansi Rani 2023)

Most of the rubber farmers are also exposed to ergonomic hazards since their job entails repetitive tapping movements, which is often repeated hundreds of times per day in awkward postures of the upper limbs, shoulder, neck, trunk, knee, and legs . During the harvesting process, the farmers need to squat, kneel for the rubber tapping in the lower panel, and lift the shoulders and upper arms to support the latex bucket. Since the working muscles contract continuously while working for 5–8 h per day, having only 1–2 days off per week may not be sufficient for the rubber farmers to recover. Furthermore, most rubber farmers have harvesting areas of 8000–16,000 m2 , which requires full-time strenuous work. Heavy workload during the harvesting season that may lead to chronic tension in the musculoskeletal system. Prolonged muscle contractions cause nerve

compression and may lead to acute or chronic injuries of the joints, tendons, and muscles.(Parnchon Chokprasit 2021)

Review of Literature :

Pimpisa Saksorngmuang (2019) conducted a cross sectional survey to investigate the working hazards and health problems among rubber farmers in the southern part of Thailand. Multi-stage random sampling method was used to select the sample.Totally 370 rubber tappers were selected.The descriptive statistical analysis was used to report the response rate of closed-ended questions. Quantitative variables were expressed as the mean, and standard deviation or as percentages. Chi-square test was used to assess the association between occupational hazards and health problems. Multiplelogistic regression was used to determine the factors related to health problems. Data were analyzed using SPSS Version 22 (IBM Corp.). Statistical significance was set at $p < .05$. Results indicated that 45.5% of the rubber farmers were exposed to a chemical substance, 87 % were exposed to a scorpion, and 27.6% had a high job strain. Furthermore, 43.8 % of the rubber farmers had a high ergonomic risk when collecting the rubber latex. Findings also revealed some common health problems among rubber farmers. These were musculoskeletal disorders (87.7%), depression symptoms (15.7%), and hand eczema (8.9 %). Additionally, nearly half of the Thai rubber farmers had an accident at work (45.1 %, while 22 % reported to have bitten by a poisonous animal. Lastly, 78.4 % of the rubber farmers had a low level of visual requirement and half of them had an abnormal lung function (57.2%). These findings suggest a need for work process modifications to prevent health hazard in Thai rubber farmers.

T. Shammy and Dr. S. Jansi Rani(2023) conducted a descriptive study to investigate the socio economic and health condition among women workers in rubber plantation in Kanyakumari district. For the purpose of selecting the sample convenience sampling technique was used for this study. Totally 110 female rubber plantation employees would make up the sample. Interview method as used to collect Primary data from the respondents by contacting them personally . It is found that majority of the respondents (52%) are in the age group of 36 – 50. All rubber farmers experienced mosquitoes bites when they worked. Musculoskeletal disorders were the most commonly reported health problems by the workers such as neck pain, lower back ache and knee joint problems (n=52; 47%) followed by respiratory problems (n=9; 8%), dermatological problems (n=35; 32%) and ophthalmological problems (n=6; 5%) in the last year. A few cases of vector borne diseases and worm infestations were also reported. Majority of the occupational accidents for women workers is Hands or fingers were frequently injured (58 %) while 23 % of them had injuries at legs. The study suggested that

working hazards and health issues among rubber farmers could be used to develop a program in order to reduce their health problem and eliminate the hazards.

STATEMENT OF THE PROBLEMS:-

A Study To Assess The Occupational Health Problems Among Rubber Tappers Residing In Yettacode Village Panchayat, Kanyakumari District.

OBJECTIVES:-

- To assess the common occupation health problems among rubber tappers in Yettacode village Panchyat.

ASSUMPTION:-

It is assumed that rubber tappers will have some health problems such as musculoskeletal disorders, abnormal lung function, Visual impairment, skin disorders insect bites etc..

RESEARCH APPROACH:-

Qualitative approach was used for this study.

RESEARCH DESIGN:-

Descriptive (cross-sectional survey) design was used for this study.

SETTING OF THIS STUDY:-

The study was conducted among rubber tappers in Yettacode village panchayat, Kanyakumari District. Yettacode village panchyat covers an area of 3 square kilometer and has a population of 5100. In that males are 2628 and females are 2472. Among this population approximately 600 peoples are rubber tappers.

POPULATION:-

The target population selected for this study was rubber tapper's residing in Yettacode village panchayat, Kanykumari District.

SAMPLE:-

The sample selected for this study was rubber tappers cutting more than 100 tress per day and residing in yettacode village panchayat, Kanykumari District.

SAMPLE SIZE:-

The sample size of this study was 20 rubber tapper's residing in yettacode village panchayat, Kanykumari District.

SAMPLING TECHNIQUE:-

Purposive convenient sampling technique was used for this study.

CRITERIA FOR SAMPLE SELECTION:

INCLUSIVE CRITERIA:-

* Rubber tappers cutting more than 100 trees per day was included
* Those who are experienced more than 1 year in tapping
* Both male and female included.
* Those who know to write tamil and talk tamil will be included.

EXCLUSIVE CRITERIA:-

*Those who are not willing to participate
* Those who are absent on the day of data collection.
* Those who are other languages like Malayalam, Hindi and English.

RESEARCH TOOL:-

DEVELOPMENT AND DISCRIPTIVE OF THE TOOL:-

The tools developed by the investigator to collect data after intense review of literature, internet search and guidance from expert in the field of nursing. Semi structured inter view based questionnaire was used for data collection.

The tool consist of two section.

Section-A : Demographic Variables

Section-B: Semi structured interview questionnaire

Section-A

It deals with the demographic characteristics of rubber tappers. It consists of demographic variables such as age, sex, education, income, Type of family, Religion, Place of living, No of trees tapped per day, year of experience, Marital status, History of present illness, History of past illness, Habits.

Section-B

Semi structured interview questionnaire was used to find out the health problems among rubber tappers. It consist of 30 questions related to health status of rubber tappers.

SCORING PROCEDURE:-

Score was awarded based on the response provided by the study samples. If the samples has any health problems it was score as one.

DATA COLLECTION PROCEDURE:-

Data was collected with in the period of 1 week. On that day 2 samples per investigator was selected, 30 minutes will be spent for each samples. Totally 20 samples were taken to assess the health problems among rubber tappers residing in Yettacode village Panchayat Kanyakumari District.

DATA ANALYSIS:-

The data was statistically analyzed by using descriptive and inferential statistics.

ETHICAL ISSUES:-

The study was conducted after getting permission from principal of White Memorial College of Nursing, Attoor and dissertation committee and president of yettacode village panchat Kanyakumari District. A verbal concern was obtained from 20 samples and assurance was given to the subject that confidentially will be maintained.

Data Analysis

The data was collected analysed and interpreted according to the objectives of the study

Table-1

Frequency and percentage distribution of demographic variables.

Sl.No	Demographic Variables	Frequency	Samples
1.	Age		
	• 20-25 yrs	0	0%
	• 26-35 yrs	2	10%
	• 36-45 yrs	12	60%
	• 45-50 yrs	6	30%
2.	Sex		
	• Male	20	100%
	• Female	0	0%
3.	Education		
	• Below 5thStd	6	30%
	• 5-10	4	20%
	• 11-12th	8	40%
	• Degree	2	10%
4.	Income		

	• Below 5000	0	0%
	• 5000-10000	2	10%
	• 10000-15000	14	70%
	• Above 15000	4	20%
5.	Type of family		
	• Nuclear	18	90%
	• Joint	2	10%
6.	Religion		
	• Christian	11	55%
	• Hindu	9	45%
	• Muslim	0	0%
	• Others	0	0%
7.	Place of living		
	• Rural	20	100%
	• Urban	0	0%
8.	Number of trees tap per day		
	• 25-50	3	15%
	• 50-75	0	0%
	•75-100	0	0%
	•Above 100	17	0%
9.	Years of experience		
	• Less than 5 yrs	0	0%
	• 5-10 yrs	0	0%
	•10-15 yrs	3	15%
	• More than 15 years	17	85%
10.	Marital status		
	• Married	20	100%
	• Unmarried	0	0%
	• Divorced	0	0%
11.	Type of housing		

	• Kutcha	15	75%
	• Pucca	5	25%
12.	Present illness		
	• Yes	13	65%
	• No	7	35%
13.	Past illness		
	•Yes	6	30%
	• No	14	70%
14.	Habits		
	• Alcohol	10	50%
	• Smoking	6	30%
	• Cannabis	0	0%
	• Drugs	0	0%
	• No	4	20%

The data presented in table 1 shows that majority 12(60%) rubber tappers were in the age of 36-45 years, 2(10%), rubber tappers were in the age of 26-35 yrs, and 6 (30%) rubber tappers were in the age of 45-50 yrs. Regarding sex all 20(100%) rubber tappers were male and no female. About the educational status 6(30%) rubber tappers were educated below 5thstd, 4(20%) rubber tappers were 5-10 std, 8(40%) rubber tappers were 11-12thstd, 2(10%) rubber tappers were completed their degree course. In the family income scale majority 14 (70%) rubber tappers were in between 10000- 15000, 2(10%) rubber tappers were in between 5000-10000, 4(20%) rubber tappers were above 15000. In the type of family majority 18(90%) of rubber tappers belongs to nuclear family, 2(10%) rubber tappers belong to Joint family. About religion 11 (55%) rubber tappers were Christian and about 9 (45%) rubber tappers were Hindu. About 20(100%) rubber tappers coming from rural area. About number of trees tap per day, 3 (15%) rubber tappers tap 25-50 trees per day, 17(85%) rubber tappers tap. Above 100 trees per day. Related to number of years experience about 3(15%) rubber tappers have 10-15 years of experience and about 17 (85%) rubber tappers have more than 15 year of experience. Related to marital status all 20(100%) rubber tappers got married. Related to type of housing majority 15 (75%) rubber tappers belongs to kutcha house and about 5 (25%) rubber tappers belongs to pucca house. About present illness majority 13(65%) rubber tappers have present illness, 7(35%) rubber tappers

doesn't have any present illness. About past illness majority 14(70%) rubber tappers doesn't have any past illness, 6(30%) rubber tappers have past illness. Related to Habits majority 10(50%) of rubber tappers have the habit of alcoholism, about 6 (30%) rubber tappers have the habit of smoking, about 4(20%) rubber tappers doesn't have any habits.

Table-2 .Number of the trees tapping per day

Sl.No	No of trees tapping per day	Frequency	Sample
1.	100-150	5	25%
2.	500	7	40%
3.	600	2	10%
4.	700	3	15%
5.	800	1	5%
6.	900	1	5%

The data presented in table 2 shows that 7 (40%) of rubber tappers tapped 500 trees a day.. When considensing about 5(25%)of tappers tapped 100-150 trees a day. About 2(10%) of rubber tappers tapped 600 rubber trees a day. About 1(5%) of tappers cutting 800 trees a day. About 1(5%) of tappers cutting 800 trees a day. About 1(5%) of tappers tapped 900 trees a day.

3. Health problems among rubber tappers

Table 3.1) (a) Pain

Sl.No	Body Pain	Frequency	Sample
1.	No Pain	1	5%
2.	Neck Pain	15	75%
3.	Chest Pain	1	5%

4.	Shoulder Pain	7	35%
5.	Back pain	1	5%
6.	Leg Pain	10	50%

Table 3.1(a)shows that among 20 samples 15 (75%) of rubber tappers had neck pain during rubber tapping. About 10(50%) of rubber tappers had leg pain. When considering about 7(35%) of rubber tappers had shoulders Pain. About 1(5%) of rubber tappers had chest pain. About 1(5%) of rubber tappers had back pain. When considering pain only 1(5%) rubber tapper does not had any pain during rubber tapping.

3.1 (b) Measures taken for pain

Sl.No	**Measures taken for pain**	**Frequency**	**Sample**
1.	Rest	10	50%
2.	Hot application	4	20%
3.	Analgesics	6	30%

When considering about 10 (50%) of rubber tappers taken rest for relieving pain. About 6(30%) of rubber tappers taken hot application and about 4(20%) of rubber tappers taken analgesics for reliving pain.

3.1(c) Number of days affected with pain

Sl.No	**Days are affected with pain**	**Frequency**	**Sample**
1.	No Pain	1	5%
2.	1 day	1	5%
3.	2 days	6	30%
4.	3 days	4	20%
5.	4 days	2	10%
6.	5 days	1	5%

7.	1 week	1	5%
8.	2 week	2	10%
9.	1 month	1	5%
10.	Always daily	1	5%

When considering about 1(5%) of rubber tappers dosen't affected with pain. About 1(5%) of rubber tappers had pain for 1 day. About 6(30%) of rubber tappers were affected with pain for 2 days. About 4 (20%) of rubber tappers had pain for 3 days. About 2(10%) of rubber tappers had pain for 4 days. About 1(5%) of rubber tappers had pain for 5 days. About 1 (5%) of rubber tappers were affected with pain for 1 week. Among 20 samples 2(10%) of rubber tappers were affected with pain for 2 week. About 1 (5%) of rubber tappers with pain for 1 month and about 1(5%) of rubber tappers were affected with pain daily.

3.1(d) Pain affected with daily routine

Sl.No	**Pain affected daily routine**	**Frequency**	**Sample**
1.	Not affected	12	60%
2.	Mental stress	1	5%
3.	Can't able to eat food	1	5%
4.	Can't able to do work	2	10%
5.	Tiredness	14	20%

The data presented in table 3.1(d) shows that among 20 samples about 8 of rubber tappers experienced pain and that affected their daily routine. Ergonomic exposure levels were high in tiredness 4(20%). About 2(10%) of rubber tappers can't able to do work, about 1(5%) of rubber tappers can't able to eat food,. About 1(5%) of rubber tappers had mental stress,. About 12(60%) of rubber tappers had pain that doesn't affect their daily routines.

3.2 Tappers with bites

3.2 (a) Mosquito bites

Sl.No	Tappers who got mosquito bite	Frequency	Sample
1.	Yes	20	100%
2.	No	0	0%

Tables 3.2(a) shows that among 20 samples 20(100%) of rubber tappers had mosquito bite during rubber tapping.

3.2(a(1) Tappers suffered with Malaria and Dengue

Sl.No	Tappers suffered with Malaria and Dengue	Frequency	Sample
1.	Yes	7	35%
2.	No	13	65%

Table 3.2(a(1) shows that among 20 samples 7(35%) of rubber tappers suffered with malaria and dengue due to mosquito bite during rubber tapping. About 13 (65%) of rubber tappers don't suffered with malaria and dengue due to mosquito bite.

3.2(b) Poisonous animal bite

Sl.No	Poisonous animal bite	Frequency	Sample
1.	Yes	2	10%
2.	No	18	90%

Table 3.2(b) shows that among 20 samples about 2(10%) of rubber tappers exposed to poisonous animal bite (Snake). About 18(90%) of rubber tappers not exposed to poisonous animal bite.

Table 3.3 History of accident

Sl.No	History of falling	Frequency	Sample
1.	No falling	11	55%
2.	Cut injury	4	20%
3.	Falling	5	25%

The data presented in table 3.3 shows that to identify the workers working hazards. Results indicated that 5 (25%) of rubber tappers had the history of falling, about 4(20%) of rubber tappers had cut injury, about 11(55%) of rubber tappers doesn't had any history of falling.

Table 3.4 Work load

Sl.No	Work load during tapping	Frequency	Sample
1.	No work load	4	20%
2.	Feels work load	16	80%

Table 3.4 shows that among samples 16(80%) of rubber tappers feels work load due to rubber tapping. About 4(20%)_ of rubber tappers don't felt workload during rubber tapping.

Table 3.5 Breathing Problem

Sl.No	Breathing Problem due to tapping	Frequency	Sample
1.	No breathing problem	18	90%
2.	Wheezing	2	10%

The data presented in table3.5 shows that about 2(10%) of rubber tappers had breathing problem due to rubber tapping. About 18 (90%) of rubber tappers doesn't had any breathing problem during rubber tapping.

Table 3.6 Skin diseases

Sl.No	Skin disease due to tapping	Frequency	Sample
1.	Not affected	15	75%
2.	Allergy	2	10%
3.	Itching	3	15%

The data presented in table 3.6 shows to identify the skin diseases of rubber tappers during rubber tapping. Results indicated that about 3(15%) of rubber tappers had itching during rubber tapping, about 2(10%) of rubber tappers had allergy, about 15(75%) of rubber tappers doesn't affected by skin diseases due of rubber tapping.

3.6(a) Allergic problem

Sl.No	Allergic problem	Frequency	Sample
1.	Yes	5	25%
2.	No	15	75%

Table 3.6 (a) shows that among 20 samples 5(25%) of rubber tappers had allergic problems. About 15(75%) of rubber tappers doesn't had any allergic problems.

Table 3.7 Health problems due to acid use

Sl.No	Health problem due to acid use	Frequency	Sample
1.	No health problem	20	100%
2.	Yes	0	0%

The data presented in table 3.7 shows that majority 20(100%) rubber tappers doesn't had any health problems due to acid use.

Health Habits among tappers

Table 3.8 (a) smoking

Sl.No	Smoking habit	Frequency	Sample
1.	No smoking habits	14	70%
2.	1 packet/day	3	15%
3.	2 packet/ day	2	10%
4.	5 cigarette	1	5%

The data presented in table 3.8 (a) shows that to identify the smoking habits of rubber tappers. Results indicated that majority 14(70%) of rubber tappers doesn't had the habit of smoking. About 3(15%) of rubber tappers used 1 packet of cigarette a day. About 2(10%) of rubber tappers used 2 packet of cigarette a day. About 1(5%) of rubber tappers used 5 cigarette a day

3.8 (b) Alcoholism

Sl.No	Habit of alcoholism	Frequency	Sample
1.	No	10	50%
2.	Sometimes	5	25%
3.	Every day	3	15%
4.	Weakly once	2	10%

Table 3.8 (b) shows that among 20 samples, about 10 (50%) of rubber tappers doesn't had the habit of alcoholism. About 5(25%) of rubber tappers drink alcohol in sometimes. About 3(15%) of rubber tappers drink alcohol in every day. And about 2(10%) of rubber tappers drink alcohol in weekly once.

Table 3.9 Foreign bodies in the eye

Sl.No	Foreign bodies in the eye	Frequency	Sample
1.	No	17	85%
2.	Wooden dust	3	15%

Table 3.9 shows that among 20 samples about 3 (15%) of rubber tappers had eye injuries due to wooden dust during rubber tapping. About 17(85%) of rubber tappers doesn't had any eye injuries during rubber tapping.

3.10 Others

Sl.No	Others	Frequency	Sample
1.	No	12	60%
2.	Sometimes	7	35%
3.	Every day	1	5%

Table 3.10 shows that to identify the workers working hazards during rubber tapping. Result indicated that about 7 (35%) of rubber tappers suffered with wasp sting during rubber tapping. About 1(5%) of rubber suffered with rubber branch falling and about 12(60%) of rubber tappers doesn't suffered with any injuries during rubber tapping.

DISCUSSION

This chapter deals with the discussion of the result of the data analyzed based on the objectives and hypothesis stated for the study.

A quantitative approach was used for the present study. The study population comprised of 20 rubber tappers residing in Yettacode Village panchayat. A purposive convenient sampling technique was used to select the samples. The data collection tools used was demographic variables and semi structured interview questionnaire to assess the health problems among rubber tappers residing in Yettacode Village panchayat ,Kanyakumari District.

Findings:-

In this study majority 12(60%) of rubber tappers were I the age of 36-45 years, 2(10%) rubber tappers were in the age of 26-35 years, 6(30%) rubber tappers were in the age of 45-50 years. Regarding sex all 20(100%) rubber tappers were male. About the educational status 6(30%) rubber tappers were studied below 5^{th}std, (20%) rubber tappers were 5-10 std, 8(40%) rubbers tappers were 11-12^{th}std, 2(10%) rubber tappers were completed degree course. In the type of family majority 18(90%) rubber tappers belongs to joint family. About Religion 11(55%) of rubber tappers were Christian and about 9(45%) of rubber tappers were Hindu. About 20(100%) rubber tappers coming from rural area. Related to housing majority 15(75%) of rubber tappers belongs to kutcha house and about 5(25%) of rubber tappers belongs to pucca house. Related to habits majority 10(50%) of rubber tappers had the habit of alcoholism, about 6(30%) rubber tappers have the habit of smoking. About 4(20%) rubber tappers doesn't have any habits. Among 20 samples 15(75%) rubber tappers had neck pain during rubber tapping. About 10(50%) of rubber tappers had leg pain-When considering about 7(35%) of rubber tappers had shoulder pain. About 1(5%) of rubber tappers had chest pain. About 1(5%) of rubber tappers had back pain. When considering about 1(5%) of rubber tappers doesn't had any pain during rubber tapping. About 5(25%) of rubber tappers had the history of falling, about 4(20%) of rubber tappers had cut injury, about 11(55%) of rubber tappers doesn't have the history of fallig. Among 20 samples 2(10%) of rubber tappers had breathing problem due to rubber tapping. About 18(90%) of rubber tappers doesn't have any breathing problem during rubber tapping.

About 3(15%) of rubber tappers had eye injuries due to wooden dust during rubber tapping. About 17(85%) of rubber tappers doesn't had any eye injuries during rubber tapping. About 7(35%) of rubber tappers

suffered with was sting during rubber tapping. About 1(5%) of rubber tappers suffered with rubber branch falling and about 12(60%) of rubbers tappers doesn't suffers with any injuries during rubber tapping.

CONCLUSION:-

This study demonstrates that high rate of occupational injury encountered by rubber tappers. Small workshops or classes conducted among the workers regarding ergonomic improvements that they needed to adopt in their working pattern will be highly effective. It will create an awareness among the rubber tappers regarding possible improvements that can be made.

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