CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This chapter mainly emphasize on the general idea of this study along with the background of the study, problems statement, objective, research questions, the hypothesis of this study, the significance of study, scope of study, the study limitations face in this study, the operational definitions of this study and the framework of this study.

1.2 BACKGROUND OF STUDY

Work-related musculoskeletal problems (WRMP) refer to conditions where the workers have experienced discomfort in one or multiple body parts such as neck, shoulder, back, elbow, hand, hip and knee. According to the OSHA Association, WRMP is defined as the disorder of muscles, skeleton and related tissue which have been empirically showed or suspected to have caused by workplace activity. It is commonly reported that rubber tapper received massive amounts of physical and mental workload which caused them to develop WRMP. Recent evidence showed that rubber tapper are exposed to the risk of musculoskeletal disorders not only in the lower back area, but also in other region of the body such as neck, shoulder, upper back, knee, hip and thighs, legs, wrist, ankles or feet (Meksawi et al., 2012; Shan et al., 2011).
Researchers had been done in order to study the most prevalent WRMP among rubber tapping. A research by Meksawi et al. (2012) which was conducted in Southern Thailand among 427 participants showed that the low back is the most prevalent with 52.9% of body region for WRMP development. Same finding was also found in a study by Shan et al. (2011) conducted among 419 rubber workers in FELDA’s Scheme Malaysia, had shown the results of 12 months MSDs prevalence were commonly reported at the neck (59.9%). A different research that conducted by Reddy et al., (2012) and Nair et al., (2015) among 343 and 154 of rubber tappers in Kerala found that the results of 12 months MSDs prevalence also found higher at the neck.

Low back area is the most susceptible for WRMP among farmer (Asyraf et al., 2007; Vasanth et al., 2015) but, for study among 195 tea pluckers in Tamil Nadu, India, Vasanth et al., (2015) had revealed that neck area and shoulder are have highest prevalence of WRMP.

1.3 PROBLEM STATEMENT

Rubber tapping activity is considered as an hazard for a musculoskeletal disorder, unusual ergonomic factors in rubber tapping process increased the risk for low back pain (Meksawi et al., 2012). Rubber tapping is the process by which the latex is collected from a rubber tree. When the circumference of the tree trunk reaches 50 cm, the tapping can be begun. Normally, the rubber tree will be divided into two or three sections circumferentially depend on the size of the tree. One section can be cut for about 5 to 7 years and then the next section is begun. The tapping level is usually started at a height of 150 cm above the ground and then moves down nearly to ground level and then the next part of the tree trunk is started at a level of 150 cm again. A special sharp tapping knife is used to cut the tree bark downward at a 30° angle a left to right oblique curve that cuts through the latex vessels. In performing rubber tapping the rubber tapper’s forearm, lower arms, and wrists must maintain a degree of flexion, while the
Trunk posture is in a degree of forward bending and laterally twisted which depends on the height of the tapping level. Overall tasks of rubber tapping would expose rubber tappers to ergonomics risk factors such as repetitiveness which is often repeated hundreds of times per day in awkward postures of the upper limbs, neck, trunk, and legs, awkward postures, static muscle loading and forceful exertion. These ergonomic problems may be a cause of MSDs among rubber tappers. Among the ergonomic risk factors present in rubber tapping process include age of the trees, height of tapping areas, number of area being tapped, uneven ground surface and technique of performing the tapping. Moreover, psychosocial hazards such as low job dissatisfaction, supervisor rating, psychological demands, decision latitudes and social support were the factors to cause sick leaves or disability due to MSDs (Hartman et al., 2005). Ergonomic risk factors caused wide range of occupationally related diseases among agriculture workers especially rubber plantation population and need extensive exploration in Malaysia. In view of limited studied on the prevalence of WRMP among rubber workers in Malaysia, this studied was attempted to determine the prevalence of WRMP and its association risk factors.

1.4 RESEARCH OBJECTIVE

The objectives of this research are:

1.4.1 To determine the prevalence of WRMP among rubber tapper by using NMQ.
1.4.2 To determine the psychosocial factor that can contribute to WRMP using JCQ.
1.4.3 To assess postural problem using RULA tools.
1.4.4 To identify whether there is a mismatched between rubber tapper tools and rubber tapper.
1.4.5 To identify the association between psychosocial factors and physical factors among rubber tapper.