Original Aticle

Epidemiology of Musculoskeletal and Soft Tissue Injuries in Thai Conscript Basic Training of the Ninth Infantry Division

Krittin Silanun[1] **and Boonterm Saengdidtha**[2]

[1]*Fort Suranari Hospital;* [2]*Army Institute of Pathology, Phramongkutklao Medical Center*

Background: *Basic training of conscripts to work as soldiers in the Royal Thai Army takes 8 weeks and there are usually reports of training injuries.* ***Objectives:*** *This study aimed at determining the incidence rates and associated factors of training-related musculoskeletal and soft tissue injuries among new conscripts of the Ninth Infantry Division, Kanchanaburi Province.* ***Methods:*** *A cross sectional survey was conducted during November 2006 – January 2007 among 1,694 new conscripts at the study area. Data were collected by self – administered questionnaires. Totally 1,617 conscripts were participated (94.5%).* ***Results:*** *The results of the study showed that the incidence rates of musculoskeletal and soft tissue injuries during basic training were 3.4 – 30.9 per 1,000 persons per month. Most injuries occurred in the second week of the training. The most frequent sites were knee (34.9%) and ankle (10.4%), respectively. The factors which were statistical significantly related to injuries were: vocational/ sub-bachelor educational level; history of previous alcohol use; previous history of musculoskeletal disease; some previous occupation such as student and factory worker, night training; having ever been operated and training on soil/cement field.* ***Conclusions:*** *This study showed that musculoskeletal and soft tissue injuries were important problems among new conscript basic training in Thailand and need attention for appropriate interventions from concerning authorities.*

Key Words: ● *Incidence* ● *Injuries* ● *Training* ● *Associated factors* ● *Conscripts*

RTA Med J 2012;65:11-9.

Introduction

Conscripts or recruits are important members of military units. Thai army conscripts come from young Thai men aged 21-22 years, selected by lottery system according to Thai laws from all 21- year- old Thai men to work in the military service, mostly in the Royal Thai Army (RTA). There are approximately 60,000 new conscripts every year to work for two years in the army, divided into two groups; the first group enter the army in May and the second in November. Basic training of them takes 8 weeks in the beginning of their military service to improve the fitness and the readiness to work as soldiers[1].

One of the factors associated with discharge during conscript basic training was injuries[2-3]. The lower limb predominated as the anatomical site of the majority of injuries[4-5]. There were a lot of reports of injuries during conscript training and most of injuries were related to musculoskeletal and soft tissues in origin[6-7].

The epidemiologic studies of injuries from conscript training showed useful information for improving the training. The reports from the U.S. Marine Corps recruit

Received February 18th 2012. Accepted April 18th 2012.

Requested for reprints should be addressed to LTC Krittin Silanun, Fort Suranari Hospital, Pibullaead Rd, Mueng District , Nakornratchasima, Thailand. Mobile 081-3931359 E-mail: krittins@hotmail.com

training of 1,296 male recruits in 1993 showed that the overall injury rate was 39.6% (number of recruits injured/ population at risk), with 82% of injuries occurring in the lower extremities. The most frequent site of injury was the ankle/foot region (34.3%), followed by the knee (28.1%)[7]. The report from the training of 5,250 female and 8,656 male US Air Force recruits showed that the overall rate for injuries in women and men was 63.0 and 27.8 per 1,000 person-weeks, respectively[3]. The incidence of recruit injuries during basic training of 415 recruits in the Irish Army was 56.96 per 1,000 man-week training[5]. Training-related initial injuries to the foot of US Marine Corps recruits undergoing basic training in 1990 occurred at a rate of 3.0 new injuries per 1,000 recruit days. The highest specific rates of injury occurred with stress fractures to the foot (0.56 per 1,000 recruit days), ankle sprains (0.53 per 1,000 recruit days), and Achilles tendinitis (0.39 per 1,000 recruit days)[8]. The incidence of soft-tissue/musculoskeletal injury occurring during 8,076 recruit-months at risk among recruits undergoing basic training at US Marine Corps Recruit Depot in 1990 was 19.9 injuries per 100 recruit-months and iliotibial band syndrome (22.4%), patellar tendinitis (15.1%), and mechanical low back pain (11.4%) occurred most frequently, with rates per 100 recruit-months of 2.1, 1.4, and 1.1, respectively[9]. The study of 6,488 Norwegian recruits during basic military training revealed that the incidence rates of injuries for the Army, Air Force and Navy were 15.3, 13.4 and 9.3 injuries per 100 recruits-months, respectively. The sites of most injuries were the lower limbs (63%). The most common types of injury were low back pain; overuse knee injuries; Achilles tendinitis; sprains of joint capsules or ligaments; and periostitis or compartment syndromes of lower leg[6].

There were many studies concerning the associated factors of conscript recruit training-related injuries. The United States Army injury control programme discovered that the risk factors of injuries included high amount of running, low level of physical fitness, low level of flexibility, sedentary lifestyle and tobacco use[10]. The report from the Recruit Training Unit, Royal Australian Air Force Base showed that the risk factors for injury were female gender, body mass index (BMI) > 26.9, winter training, a history of lower limb injury, and the presence of a lower limb deformity[11]. The study from the Royal Marines recruit training showed that smoking status of recruits in training was significantly associated with injury. A recruit who smoked on entry to training was almost twice as likely to acquire an injury during training[12]. A report from Thailand showed that the characteristics of foot and the appropriateness of shoes were associated with foot and ankle injuries during training[13]. The study from Norway revealed that tobacco use, higher age, high BMI, aerobic fitness and health condition were risk factors of injuries during recruit training[14-15].

Since most of the reports of recruit injuries originated in western countries and there were too little data of these problems in Thailand. There should be some studies concerning the size of injuries during recruit basic training and factors affecting them which will be very important to plan for appropriate training to minimize the injuries and the costs of them. Therefore, this research aimed to study the incidence of musculoskeletal and soft tissue injuries among recruits of the Ninth Infantry Division representing the army unit in the basic training of November 2005 recruit group and the association of intrinsic and extrinsic factors to the injuries.

Methods

All of 1,694 recruits of the Ninth Infantry Division, Kanchanaburi Province, of November 2006 group were allocated for samples of this study. The data were gathered by means of questionnaire, divided into 2 parts,

i.e., personal and injuries data. The injuries data were received from medical record of Fort Suranari Hospital? The questionnaires for injuries data were distributed to the samples at the end of each week of training during November 2006 – January 2007.

The computer software for social science study was used for data entry and analysis. The incidence rates of injuries were calculated and the relationship between factors affecting injuries and injuries were analyzed in terms of Odds Ratios (OR) and confidence intervals (CI).

Results

There were 1,617 recruits from 1,694 who participated in this research, made the participation rate of 98.4%.

Most of the recruits aged 21 – 22 years (93.8%), came from Burirum (42.3%), finished early secondary school (33.2%), were single (81.1%), worked in factories (34.1%), had normal BMI (78.4%), had no personal disease (82.3%), had never operated (90.7%), smoked cigarette (51.4%), drank alcohol 2-3 times/ week (30.1%), had no health checkup (7.43%), exercised less than 3 days/ week (36.7%) (Table 1).

The parts of body which were most affected by the injuries were lower extremities (549 persons, 72.2%) and the most common part of injuries was knee (315 persons, 34.9%) and the second was ankle (97 persons, 10.4%). The types of units mostly affected were combat units (82.5%), combat support units (14.9%) and combat assist units (2.6%), respectively. (Table 2). The highest incidence of injuries occurred in the combat unit (24.9 per 1,000 person-month) with the average incidence of 14.8 per 1,000/month. One of the battalions in the combat unit got the highest incidence rate (30.9 per 1,000 person-month) and one of the battalions in the combat support unit got the lowest (3.4 per 1000 person-month) (Table 3).

Most of the injuries occurred in the second week

Table 1 Demographic characteristics of the studied conscripts (n = 1,617)

	Number (%)
Ages (Years)	
21-22	1,517 (93.8)
23-24	75 (4.6)
≥ 25	25 (1.5)
Hometown	
Burirum	684 (42.3)
Srisaket	287 (17.7)
Kanchanaburi	297 (18.4)
Suphanburi	327 (20.2)
Others	22 (1.4)
Education level	
Elementary school	516 (31.9)
Early secondary school	537 (33.2)
Late secondary school	406 (25.1)
Vocational school / Below bachelor degree	88 (5.4)
Bachelor degree	52 (3.2)
Others	18 (1.1)
Marital status	
Single	1,312 (81.1)
Married	298 (18.4)
Divorced/ Separated/Widow	7 (0.4)
Occupation before being conscripts	
Agriculturist	546 (33.8)
Factory workers	552 (34.1)
Office	96 (5.9)
Students	162 (10.0)
Others	261 (16.1)
Body mass index	
< 18.5 (Less than standard)	198 (12.2)
18.5-24.9 (Standard)	1,268 (78.4)
25-29.9 (More than standard)	136 (8.4)
≥ 30 (Obesity)	15 (0.9)
Personal diseases*	
No	1,330 (82.3)
Yes	287 (17.7)
Ever operated	
No	1,468 (90.7)
Yes	149 (9.3)

Table 1 (continue) Demographic characteristics of the studied conscripts (n = 1,617)

Smoking	
No	502 (31.0)
Yes	831 (51.4)
Yes & Quit	284 (17.6)
Alcohol drinking	
No	234 (14.5)
Yes <3 time/week	386 (23.9)
Yes 2-3 time/week	486 (30.1)
Yes >3 time/week	371 (22.9)
Yes but Quit	140 (8.7)
Health checkup	
No	1,202 (74.3)
Yes	415 (25.7)
Exercise	
No	557 (34.4)
Yes (<3 days per week)	594 (36.7)
Yes (≥3 days per week)	466 (28.8)
Total	**1,617 (100)**

* bone and joint 117 (7.2%), asthma 73 (4.5%), peptic disease 34 (2.1%), others 63 (3.9%)

of training (16.9 %) (Table 4). Most of the injured recruits who were referred to be treated in hospital were diagnosed as myositis/ sprain/ tendinitis (66.9%). The second most common causes of injuries was superficial injuries (30.5%) (Table 5).

The factors which were statistical significantly related to musculoskeletal and soft tissue injuries were: vocational/subachelor educational level (OR = 1.66, CI 1.01-2.78); history of previous alcohol use (OR = 1.61, CI 1.02-2.55); previous history of musculoskeletal disease (OR = 1.66, CI 1.09-2.54); some previous occupation such as student (OR = 2.65, CI 1.78-3.99) and factory worker (OR = 1.46, CI 1.14-1.87); having personal disease (OR = 1.51, CI 1.15-2.00), night training (OR = 3.15, CI 1.82-7.27); having ever been operated (OR = 1.08, CI 1.04-2.18) and training on soil/cement field (OR = 1.41, CI 1.11-1.79) (Table 6).

Table 2 Number of injured conscripts classified by parts of body and types of units

Parts of body	Types of Units (No. (%))			Total (No.(%))
	Combat	Support	Assist	
Head and Body	116 (85.9)	16 (11.8)	3 (2.3)	135 (100)
Upper Extremities	111 (83.4)	15 (11.3)	7 (5.2)	133 (100)
Lower Extremities	549 (81.9)	107 (15.9)	14 (2.1)	670 (100)
Total	**766 (82.5)**	**138 (14.9)**	**24 (2.6)**	**928 (100)**

Table 3 Incidence of musculoskeletal and soft tissue injuries among conscripts classified by units

Types of Units	No. of injured conscripts	Incidence (per 1,000 person-month)
Combat Unit	766	24.9
Combat Support Unit	138	12.2
Combat Assist Unit	24	7.4
Total	**928**	**14.8**

Table 4 Number of conscripts with musculoskeletal and soft tissue injuries classified by training weeks of occurrence

Training weeks of occurrence	Number (%)
Week 1	170 (10.5)
Week 2	274 (16.9)
Week 3	216 (13.4)
Week 4	140 (8.7)
Week 5	148 (9.1)
Week 6	92 (5.7)
Week 7	68 (4.2)
Week 8	36 (2.2)
Total	**1,144 (70.7)**

Table 5 Number of conscripts which were treated in hospitals classified by types of injuries

Types of injuries	Number (%)
Myositis/ Sprain/ Tendinitis	103 (66.9)
Superficial injuries	47 (30.5)
Fracture of Tibia	1 (0.6)
Shoulder dislocation	1 (0.6)
Open wound	1 (0.6)
Others	2 (1.3)
Total	**154 (100)**

Table 6 Univariate analyses of associated factors with the number of injured conscripts

Factor	No. (%)	No. of injured conscripts	
		No. (%)	OR (95 % CI)
Age (years)			
21 - 22	1,517 (100)	871 (42.6)	1
23 - 24	75 (100)	45 (60.0)	1.11 (0.68-1.85)
≥ 25	25 (100)	12 (48.0)	0.68 (0.28-1.63)
Hometown			
Burirum	684 (100)	379 (55.4)	1
Suphanburi	327 (100)	192 (58.7)	1.14 (0.86-1.50)
Kanchanaburi	297 (100)	174 (58.6)	1.13 (0.85-1.51)
Srisaket	287 (100)	103 (60.3)	1.22 (0.91-1.63)
Others	22 (100)	10 (73.3)	0.67 (0.26-1.71)
Education			
Elementary	516 (100)	284 (55.0)	1
Early secondary	537 (100)	306 (57.0)	1.08 (0.84-1.39)
Late secondary	406 (100)	239 (58.9)	1.16 (0.89-1.53)
Vocational/Subachelor	88 (100)	59 (67.0)	1.66 (1.01-2.78)*
Bachelor	52 (100)	34 (65.4)	1.54 (0.82-2.98)
Others	18 (100)	6 (33.3)	0.40 (0.12-1.19)
Marital status			
Single	1,312 (100)	757 (57.7)	1
Married	298 (100)	165 (55.4)	0.91 (0.70-1.18)
Divorced/Separated	7 (100)	6 (85.7)	0.62 (0.17-2.20)
Former occupation			
Agriculturist	546 (100)	270 (49.5)	1
Factory workers	552 (100)	325 (58.9)	1.46 (1.14-1.87)*
Office	96 (100)	44 (45.8)	0.86 (0.55-1.36)
Student	162 (100)	117 (72.2)	2.65 (1.78-3.99)*
Others	261 (100)	172 (65.9)	1.97 (1.43-2.72)

Table 6 (continue) Univariate analyses of associated factors with the number of injured conscripts

Factor	No. (%)	No. of injured conscripts	
		No. (%)	OR (95 % CI)
BMI(Kg/m^2)			
18.5	198 (100)	109 (58.7)	1
18.5-24.9	1,268 (100)	728 (58.6)	1.10 (0.80-1.50)
25-29	136 (100)	64 (60.3)	0.72 (0.46-1.15)
$\geq$ 30	15 (100)	11 (45.5)	2.24 (0.63-9.96)
Personal diseases			
No	1,330 (100)	740 (55.6)	1
Yes	287 (100)	188 (65.5)	1.51 (1.15-2.00)*
History of past diseases			
Peptic ulcer	34 (100)	23 (67.6)	1.66 (0.77-3.81)
Musculoskeletal diseases	117 (100)	79 (65.4)	1.66 (1.09-2.54)*
Bronchial Asthma	73 (100)	44 (60.3)	1.25 (0.75-2.11)
Allergic diseases	3 (100)	0	0
Epilepsy	3 (100)	2 (66.7)	1.59 (0.08-94.2)
Others	57 (100)	37 (64.9)	1.47 (0.82-2.71)
Smoking			
No	502 (100)	282 (56.2)	1
Yes	831 (100)	478 (57.5)	1.05 (0.81-1.32)
Yes but quit	284 (100)	168 (59.2)	1.12 (0.89-1.53)
Alcoholic drinking			
Never	234 (100)	129 (55.1)	1
< 1 time / week	386 (100)	224 (58.0)	1.12 (0.80-1.58)
2-3 times / week	486 (100)	270 (55.6)	1.01 (0.73-1.41)
> 3 times / week	371 (100)	212 (57.1)	1.08 (0.77-1.52)
Ever drunk but quit	140 (100)	93 (66.4)	1.61 (1.02-2.55)*
Ever operated			
No	1,468 (100)	813 (57.1)	1
Yes	149 (100)	306 (65.1)	1.08 (1.04-2.18) *
Yearly health checkup			
No	1,202 (100)	686 (57.1)	1
Yes	415 (100)	242 (58.3)	1.05 (0.93-1.12)
Exercise			
No	557 (100)	327 (58.7)	1
< 3 times/ week	594 (100)	594 (58.4)	0.98 (0.77-1.25)
> 3 times/ week	466 (100)	254 (54.4)	0.84 (0.65-1.01)
Appropriateness of shoes			
Fit	1,431 (100)	815 (57.0)	1
Loose	162 (100)	97 (59.9)	0.58 (0.40-0.82)
Tight	24 (100)	16 (66.7)	1.51 (0.60-4.15)
Training types with pain			
Running	1,175 (100)	650 (55.3)	1
Without weapons	133 (100)	85 (63.9)	1.43 (0.97-2.12)
With weapons	127 (100)	66 (52.0)	0.87 (0.60-1.28)
Night training	60 (100)	52 (86.7)	3.15 (1.82-7.27)*
Others	122 (100)	75 (61.5)	1.28 (0.87-1.93)
Characteristics of field			
Grass	1,212 (100)	652 (52.8)	1
Soil/Cement	405 (100)	252 (67.0)	1.41 (1.11-1.79)*

** $p < 0.05$*

Discussion

Basic military training exposes conscripts to multiple environmental and psychological stressors which influence on health and lifestyles of them. A lot of them begin training with less than optimal lifestyle in the aspects of fitness, smoking habit, alcohol consumption, drug abuse, and exposure to sexually transmitted diseases[16]. There are other occupational hazards which should be recognized for preventive interventions, such as heat injury[17], acoustic trauma[18], etc. Thus, there should be procedures to enhance training programs that address fitness and lifestyle, minimizing potential losses in health and efficiency from diseases, injuries and other health hazards.

The incidence rates of musculoskeletal and soft tissue injury were different among different countries and different situations of studies. From this study, the incidence rates of musculoskeletal and soft tissue injury of recruit training was 3.4-30.9/1,000 persons-months which were similar to the studies in many countries[5-10]. Most of the injury was found in the second and third weeks of basic training because the training is harder than the beginning and the recruits might not familiar with this kind of work. During some types of training, the recruits have to move quickly from the rest points, then, the injuries were easy to occur. In the third week, there was weapon training with different movement, e.g., crawling, carrying personal weapons, which might injure muscles and soft tissues.

The associated factors of training-related injuries in this study were: educational level; history of alcohol use; history of musculoskeletal disease; previous occupation; having personal disease, night training; having ever been operated; and the places of training. Most of them were similar to the past studies[6,9,11,15]. There were some factors, i.e., high BMI and cigarette smoking, which were significantly associated with training injuries in western studies[15,19-20], but in this study they weren't. This may be due to different persons and environment in the training and some risk factors may not the real causes. Further studies should be done for more accurate results by other methods, e.g. case-control studies and the other units of the RTA should be selected for the studied sites.

However, the injury control should be performed in the training situations. It requires 5 major steps: (1) surveillance to determine the size of the injury problem; (2) studies to determine causes and risk factors for these injuries; (3) studies to ascertain whether proposed interventions actually reduce injuries; (4) implementation of effective interventions; and (5) monitoring to see whether interventions retain their effectiveness[10]. In other words, the cycle of surveillance, research, prevention, early diagnosis, prompt treatment and rehabilitation to make the conscript health, should be administered for the better result of the training[21-26].

Conclusion

This study showed that musculoskeletal and soft tissue injuries were important problems, and sometimes high in incidence rates, among new conscript basic training in Thailand. The risk factors were similar to many studies, except some factors, i.e. high BMI and smoking. There should be injury control program for the training and these kinds of injuries need attention for appropriate interventions from concerning authorities.

References

1. *Teeranet G, Chamroonthaneskul P, Legkum K, et al. Fitness profile of Thai recruits : a study of 8-week basic training course. RTA Med J 2001;54:3-8.*
2. *Reis JP, Trone DW, Macera CA, Rauh MJ. Factors associated with discharge during marine corps basic training. Mil Med 2007;172:936-41.*
3. *Snedecor MR, Boudreau CF, Ellis BE, et al. U.S. Air force recruit injury and health study. Am J Prev Med 2000;18(3 Suppl):129-40.*

4. *Rudzki SJ. Injuries in Australian Army recruits. Part II: Location and cause of injuries seen in recruits. Mil Med 1997;162:477-80.*
5. *Kerr GM. Injuries sustained by recruits during basic training in Irish Army. Ir Med J 2004;97:80-1.*
6. *Heir T, Glomsaker P. Epidemiology of musculoskeletal injuries among Norwegian conscripts undergoing basic military training. Scan J Med Sci Sports 1996;6:186-91.*
7. *Ameida SA, Williams KM, Shaffer RA, Brodine SK. Epidemiological patterns of musculoskeletal injuries and physical training. Med Sci Sports Exerc 1999;31:1176-82.*
8. *Linenger JM, Shwayhat AF. Epidemiology of podiatric injuries in US Marine recruits undergoing basic training. J am Podiatr Med Assoc 1992;82:269-71.*
9. *Linenger JM, West LA. Epidemiology of soft-tissue/musculoskeletal injury among U.S. Marine recruits undergoing basic training. Mil Med 1992;157:491-3.*
10. *Jones BH, Knapik JJ. Physical training and exercise-related injuries. Surveillance, research and injury prevention in military populations. Sports Med. 1999;27:111-25.*
11. *Ross J, Woodward A. Risk factors for injury during basic military training. Is there a social element to injury pathogenesis? J Occup Med 1994;36:1120-6.*
12. *Munnoch K, Bridger RS. Smoking and injury in Royal Marines' training. Occup Med 2007;57:214-6.*
13. *Boonmamanee N, Khunphasee A. Prevalence of foot and ankle injuries in new Thai military recruits at the 8th week of training. J Thai Rehabil Med 2006;16:161-9.*
14. *Heir T, Eide G. Injury proneness in infantry conscripts undergoing a physical training programme: smokeless tobacco use, higher age, and low levels of physical fitness are risk factors. Scan J Med Sci Sports 1997;7:304-11.*
15. *Heir T, Eide G. Age, body composition, aerobic fitness and health condition as risk factors for musculoskeletal injuries in conscripts. Scan J Med Sci Sports 1996;6:222-7.*
16. *Shephard RJ, Brenner IK, Bateman WA, Shek PN. Basic recruit training: health risks and opportunities. Mil Med 2001;166:714-20.*
17. *Supaporn T, Beejabala S, Theeranet G, et al. Roles of heat stress index monitoring and heat acclimatization program for basic military training in the Royal Thai Army. RTA Med J 2000;53:95-106.*
18. *Detphithak N, Boonyanukul S, Navacharoen N, et al. Acoustic trauma in soldiers (private rank) after gunfire training. RTA Med J 1997;50:95-9.*
19. *Jones BH, Bovee MW, Harris JM, et al. Intrinsic risk factors for exercise-related injuries. Am J Sports Med .....;21:705-10.*
20. *Altarac M, Gardner JW, Popovich RM, et al. Cigarette smoking and exercise-related injuries among young men and women. Am J Prev Med 2000;18:96-102.*
21. *Yeung E, Yeung S. A systematic review of interventions to prevent lower limb soft tissue running injuries. Br J Sports Med 2001;35:383–9.*
22. *Hreljac A. Etiology, prevention, and early intervention of overuse injuries in runners: a biomechanical perspective. Phys Med Rehabil Clin N Am 2005;16:651-67.*
23. *Kaufman KR, Brodine S, Shaffer R. Military training-related injuries: surveillance, research, and prevention. Am J Prev Med 2000;18(3 Suppl):54-63.*
24. *Bullock H, Jones BH, Gilchrist, et al. Prevention of physical training-related injuries recommendations for the military and other active populations based on expedited systematic reviews. Am J Prev Med 2010;38(1 Suppl):S156-81.*
25. *Jones BH, Perrotta DM, Canham-Chervak ML, et al. Injuries in the military: a review and commentary focused on prevention. Am J Prev Med 2000;18(3 Suppl):71-84.*
26. *Ballas MT, Tytko J, Cookson D. Common overuse running injuries: diagnosis and management. Am Fam Physician 1997;55:2473-84.*

ระบาดวิทยาของการบาดเจ็บของกระดูก กล้ามเนื้อและเนื้อเยื่ออ่อน ในการฝึกพลทหารสังกัดกองพลทหารราบที่ 9

กฤติณ ศิลานันท์[1] **และ บุญเติม แสงดิษฐ**[2]

[1]*โรงพยาบาลค่ายสุรนารี* [2]*สถาบันพยาธิวิทยา ศูนย์อำนวยการแพทย์พระมงกุฎเกล้า*

บทคัดย่อ : *การฝึกพลทหารใหม่ของกองทัพบกใช้เวลา 8 สัปดาห์ในระยะแรกของการเข้าประจำการ และมักมีรายงานการบาดเจ็บในช่วงการฝึก* ***วัตถุประสงค์:*** *เพื่อหาอัตราอุบัติการณ์และปัจจัยที่เกี่ยวข้องกับการบาดเจ็บของกล้ามเนื้อและเนื้อเยื่ออ่อนจากการฝึกพลทหารใหม่ สังกัด กองพลทหารราบที่ 9* ***วิธีการ:*** *ใช้รูปแบบการศึกษาเป็นแบบเชิงพรรณนา ณ จุดเวลาใดเวลาหนึ่ง กลุ่มตัวอย่างประกอบด้วยพลทหารใหม่สังกัดกองพลทหารราบที่ 9 จำนวน 1,694 คน เก็บข้อมูลโดยใช้แบบสอบถาม ระหว่างเดือน พฤศจิกายน 2549 – 1 มกราคม 2550* ***ผลการศึกษา:*** *มีกลุ่มตัวอย่างจำนวนทั้งสิ้น 1,617 คน เข้าร่วมการศึกษาในครั้งนี้ คิดเป็นอัตราเข้าร่วมการศึกษา ร้อยละ 95.4 พบว่า อัตราอุบัติการณ์การบาดเจ็บของกล้ามเนื้อและเนื้อเยื่ออ่อนจากการฝึกใน 8 สัปดาห์ เท่ากับ 3.4 – 30.9 / 1,000 คน-เดือน พบอัตราอุบัติการณ์มากที่สุดในสัปดาห์ที่ 2 ของการฝึก ตำแหน่งของร่างกายที่พบการบาดเจ็บมากที่สุด คือ เข่า ร้อยละ 34.9 และข้อเท้า ร้อยละ 10.4 ตามลำดับ ปัจจัยที่มีความสัมพันธ์กับการเกิดการบาดเจ็บของกล้ามเนื้อและเนื้อเยื่ออ่อนอย่างมีนัยสำคัญทางสถิติ ได้แก่ ระดับการศึกษา อนุปริญญา/ปวช/ปวส ประวัติการดื่มสุราในอดีต การมีโรคประจำตัว การเป็นโรคของกล้ามเนื้อกระดูกและข้อ อาชีพทำงานในโรงงานอุตสาหกรรม และนักศึกษา การฝึกเวลากลางคืน เคยได้รับการผ่าตัด และใช้สนามพื้นดินหรือพื้นซีเมนต์ในการฝึก* ***สรุป:*** *พบว่าปัญหาเกี่ยวกับการบาดเจ็บของกล้ามเนื้อและเนื้อเยื่ออ่อนจากการฝึกเป็นปัญหาสำคัญของการฝึกทหารใหม่ หน่วยงานที่เกี่ยวข้องควรให้ความสำคัญและสนใจในการป้องกันและแก้ปัญหาดังกล่าวอย่างเหมาะสม*

Key Words: ● *อุบัติการณ์* ● *การบาดเจ็บ* ● *การฝึก* ● *ปัจจัยที่เกี่ยวข้อง* ● *พลทหาร*

เวชสารแพทย์ทหารบก 2555;65:11-9.