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Relationship between Health Belief Model and Health Promotion Behaviors for Musculoskeletal Disorders Prevention among Red Car Taxi Drivers in Chiang Mai Province

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บทคัดย่อ Musculoskeletal disorders are major problems in health systems worldwide which are the causes of disabilities. Taxi driver is considered a profession with high musculoskeletal disorders. The aim of the study was to evaluate the relationship between health belief model and health promotion behaviors for musculoskeletal disorders prevention among red car taxi drivers in Chiang Mai. Data were collected from 219 red car taxi drivers in Chiang Mai, by using a questionnaire developed and adapted from previous studies, consisting of personal data, health information, health belief model of musculoskeletal disorders questionnaire, and level of health promotion behaviors for musculoskeletal disorders prevention questionnaire. The collected data were analyzed using descriptive statistic, the relationship of the interested parameters was indicated by using spearman rank correlation coefficient, and multiple regression analysis. There was a low positive correlation between the overall health perception and health promotion behaviors ($r=0.40$, $p<0.05$). Factors significantly positive is related to health promotion behaviors for musculoskeletal disorders prevention among red car taxi drivers that perceived susceptibility, perceived benefit, self-efficacy, and health motivation factors($r=0.17$, $r=0.18$, $r=0.45$, $r=0.39$ respectively; $p<0.05$). Whereas perceived barriers were negatively related to health promotion behaviors. ($r=-0.16$, $p<0.05$). There was no correlation between perceived severity and health promotion behaviors. In this study self-efficacy, health motivation, and perceived susceptibility were predictors of health promotion behaviors ($\beta=0.39$, 0.28, 0.24 respectively). Those factors predicted 33 % of the variation ($R^2=0.33$, $p<0.05$). The results of this study can be used to plan activities to promote preventive behaviors to reduce risk of musculoskeletal disorders.

คำสำคัญ: **health belief model; health promotion behaviors; musculoskeletal disorder; taxi driver**

Introduction

Musculoskeletal disorders are major problems in health systems worldwide. It could be one of the causes of disability[1]. The data shows that 42%-58% of work-related musculoskeletal disorders are related illness[2,3]. In Thailand, there is a high prevalence of workers with musculoskeletal injuries that the body has pain, fatigue, and inflammation related to the musculoskeletal system. There were 114,578 cases related to working conditions[4]. There are many causes related to musculoskeletal disorders, including work environment, physical, mental health, social, personal, and health factors[2,5] that affect work efficiency and quality of life[6].

Taxi drivers have been at a high risk of health problems resulting from behavior and environment[7]. Taxi drivers must sit in a confined space, expose to whole-body vibration, awkward working posture for a long time, and unsuitable seat. Thus, these could lead to musculoskeletal disorders[8,9]. Previous studies found that the prevalence of musculoskeletal disorders among drivers in Hongkong, Malaysia and India were 89.3%, 81.8%, and 80% respectively[10-12]. In Thailand, the prevalence of musculoskeletal disorders among bus drivers in the Bangkok Mass Transit Authority in the 7 days and 12-month period were 69.5% and 68.4%, respectively.[13] In Hat Yai District, Songkhla Province was 82.93%[14]. If the taxi drivers do not change their health behaviors or receive treatment, it may cause severe and chronic injuries which could limit their activities and lead to disabilities[15]. In Chiang Mai, there are many types of public transport services. The red four-wheel vehicle (red car taxi) is a popular alternative to public taxi services for individuals and tourists in urban areas[16]. Previous studies found that the drivers had at risk of injury from working on the road, inappropriate behavior, and environment which affects physical, mental health, economic, and social[7,17].

Pender's health promotion model found that health promotion behaviors are important factors and encourage individuals to have appropriate health behaviors. It motivates individual attention to good health practices[18]. Rosenstock's health belief model describes perceived susceptibility, severity, benefit, and barriers to acting, health motivation, modifying factors that influence the change in a person's behavior, and motivation to practice healthy behaviors to prevent disease[19]. In addition, self-efficacy theory (Bandura, 1977) describes persons who succeed, they must have self-efficacy and expectations of good results[20]. Previous studies found that 57 percent of taxi drivers do not have health insurance while they have risk of injuries from working. Therefore, they should focus on the perception of health belief that change proper health promotion behaviors for musculoskeletal disorders prevention among red car taxi drivers. In this regard, health promotion behaviors for musculoskeletal disorders prevention can reduce the prevalence of work-related musculoskeletal disorders[21].

This study aimed to investigate the relationship between health beliefs and health promotion behaviors for musculoskeletal disorders prevention among the red car taxi drivers in Chiang Mai Province. In study could make the red car taxi drivers aware of the mechanisms of pathology, causes, risk factors, and effects related to musculoskeletal disorders. Therefore, they can adjust behavior to be appropriate for their self-care to reduce symptoms of musculoskeletal disorders that affect the quality of life. Moreover, the data could be

used to plan activities to promote preventive behaviors and reduce the severity of musculoskeletal disorders before they become chronic problems in the future.

Methods

A cross-sectional study was conducted using, convenience sampling method was collect data for 219 red car taxi drivers currently working in Chiang Mai. The inclusion criteria were male or female aged over 22 years old, working as a red car taxi driver full-time, and driving a minimum of 4-6 hours per day. Red car taxi drivers must be able to read, write and understand Thai, and willing to participate in this study.

The number of samples was calculated by using G-power version 3.1.9.2 for correlation statistical test with the Bivariate normal model determines of variables from the studies. The value of the group influence size was based on a previous study[22] which has effect size=0.188, alpha coefficient (α error probability)=0.05, and analytical power (Power (1-β)=0.80. This study was approved by the Institutional Ethical Committee of the Faculty of Public Health, Chiang Mai University, Thailand (approval number ET020/2564). Participants gave informed consent before data collection.

The study protocol had been approved by the Ethics Committee. The research requested an approval for data collection of the red car taxi drivers with the chairman of NakornLanna Ltd. in Chiang Mai which is an organization of red four-wheeled vehicles (red car taxi). Then the red car taxi drivers were approached at a taxi station in an urban. The researchers explained the information before conducting the study including objectives, methods, confidential guidelines before the drivers signed the consent forms. However, the red car taxi drivers could withdraw the study anytime without any consequences. In addition, the study questionnaires were kept stored safety. When the study is finished, it will be destroyed properly.

Data were collected using a questionnaire developed from the literature review and adapted from previous studies consisting of four parts. The validity of the questionnaires was examined by three experts including professors who were experts in occupational health workplace health promotion and occupational health risk reduction, physiotherapy of the musculoskeletal system, and health promotion system. The reliability of the awareness questionnaires has a Cronbach's alpha coefficient of 0.81

1. Personal data and the health information consists of questions about sex, age, educational level, supplementary occupation, experience driving, average driving time per day and week, underlying disease, annual health check, drinking, smoking, exercise, treatment for musculoskeletal disorders and sources of health information

2. Health belief model of musculoskeletal disorders questionnaire was adapted from a questionnaire model from the previous study[23] and based on the health belief model of Rosenstock[19].The questionnaires comprise 39 items consisting of 7 perceived susceptibility items, 7 perceived severity items, 7 perceived benefit items, 6 perceived barriers to acting items, 6 self-efficacy items, 6 health motivation items that were assessed using a five-point rating scale from strongly disagree to strongly agree. For positive statements, strongly disagree was scored 1, and strongly agree was scored 5. For negative statements, strongly disagree was scored 5, and strongly agree was scored 1. The interpretation perceived of musculoskeletal

disorders scores were divided into 3 levels including scores 1.00-2.33=low level, 2.34-3.66=moderate level, and 3.67-5.00=high level

3. Level of health promotion behaviors for musculoskeletal disorders prevention questionnaire. The researcher had modified the questionnaire from a previous study[24]. According to Pender's concept of health promotion, the questionnaires comprise of 20 items consisting of 5 health responsibility items, 5 physical activity and exercise items, 5 nutrition items, and 5 stress management items that were assessed using a five-point rating scale from strongly disagree to strongly agree. For positive statements, strongly disagree was scored 1, and strongly agree was scored 5. For negative statements, strongly disagree was scored 5, and strongly agree was scored 1. The interpretation perceived of musculoskeletal disorders was divided into 3 levels including scores 1.00-2.33=low level, 2.34-3.66=moderate level, and 3.67-5.00=high level

Data analysis was performed using SPSS version 17, licensed from Chiang Mai University (Chicago: SPSS Inc; 2008). Frequency, percentage, mean, and standard deviation were used to describe the general characteristics of the information. The relationships between the health belief model and health promotion behaviors for musculoskeletal disorders prevention among the red car taxi drivers were assessed by using the Spearman rank correlation coefficient because the variables did not have to be normally distributed. Multiple regression analysis was calculated to predict health promoting behaviors in the prevention of skeletal and muscular disorders. Significance level ($p<0.05$) was used.

Results

A total of 219 red car taxi drivers participated in this study, most red car taxi drivers (90.9%) were males, The mean age of participants was 57 ± 9.14 years old (range: 27-76 years). A major of participants were primary education (50.2%), 90% engaged in driving a red car taxi driver) without the additional occupation. The mean of driving experience was 11-20 years while the average duration of driving per day and per week was 5.45±1.44 hours and 5.94±1.11 days. 59.4% had an underlying disease with 70.3% received annual health check. The majorily of participants (46.1%) never did exercise, 11.9% drank alcoholic beverages less than 3 days a week, 19.6% smoked cigarettes. When they had musculoskeletal disorders, most of them (33.3%) ignored treatment and 29.7% stretched muscles to relieve pain by themselves. More than half of the participants (72.6%) received health information from radio and television.

The participants had a high level of health beliefs about musculoskeletal disorders that overall health perception, perceived susceptibility, perceived severity, perceived benefit, self-efficacy, and health motivation were in high level except for perceived barriers to acting that were in moderate level (Table 1).

The results revealed that overall health promotion behaviors for musculoskeletal disorders prevention and each domain scores were at a moderate level. Most of their physical activity behavior and exercise, nutritional behavior, stress management behaviors except for health responsible behavior (62.6%) were at a high level (Table 2).

The study of 219 participants showed the relationship between the health belief model and health

Table1 Health belief model of musculoskeletal disorders among the participants (n=219)

Health beliefs about musculoskeletal disorders	High level		Moderate level		Low level		Mean±SD	Level of perception
	n	%	n	%	n	%		
Overall health perception	193	88.1	26	11.9	0	0	3.84±0.15	High
1. Perceived susceptibility	208	95.0	11	5.0	0	0	4.11±0.29	High
2. Perceived severity	198	90.4	21	9.6	0	0	4.09±0.34	High
3. Perceived benefit	199	90.9	20	9.1	0	0	4.03±0.31	High
4. Perceived barriers to acting	2	0.9	110	50.2	107	48.9	2.47±0.43	Moderate
5. Self-efficacy	166	75.8	53	24.2	0	0	4.02±0.27	High
6. Health motivation	168	76.7	51	23.3	0	0	4.06±0.36	High

Table 2 health promotion behaviors for musculoskeletal disorders prevention among the participants (n=219)

Health promotion behaviors for musculoskeletal disorders prevention	High level		Moderate level		Low level		Mean±SD	Level of health promotion
	n	%	n	%	n	%		
Overall health promotion behaviors	77	35.2	142	64.8	0	0	3.56±0.29	Moderate
1. Health responsible behavior	137	62.6	82	37.4	0	0	3.86±0.54	High
2. Physical activity behavior and exercise	43	19.6	176	80.4	0	0	3.32±0.46	Moderate
3. Nutritional behavior	43	19.6	176	80.4	0	0	3.43±0.40	Moderate
4. Stress management behaviors	84	38.4	135	61.6	0	0	3.64±3.12	Moderate

promotion behaviors for musculoskeletal disorders prevention among red car taxi drivers. Overall health perception had lowly positive related to health promotion behaviors statistical significance. Factors significantly positive related to health promotion behaviors for musculoskeletal disorders prevention were that perceived susceptibility, perceived benefit, self-efficacy, and health motivation whereas perceived barriers were significantly negative related to health promotion behaviors. There was no correlation between perceived severity and health promotion behaviors for musculoskeletal disorders prevention among red car taxi drivers (Table 3).

Three factors significantly influenced health promotion behaviors for musculoskeletal disorders prevention musculoskeletal disorders of red car taxi drivers: self-efficacy, health motivation and perceived susceptibility. Those factors predicted 33 % of the variation in health promotion behaviors (R^2=0.33, p-value <0.001) (Table 4).

Table 3 Relationship between the health belief model and health promotion behaviors for musculoskeletal disorders prevention musculoskeletal disorders prevention

Health beliefs about musculoskeletal disorders	Health promotion behaviors for musculoskeletal disorders prevention Spearman's rho (r)	p-value
Overall health perception	0.40	<0.001*
1. Perceived susceptibility	0.17	0.013*
2. Perceived severity	0.06	0.345
3. Perceived benefit	0.18	0.008*
4. Perceived barriers to acting	-0.16	0.018*
5. Self-efficacy	0.45	<0.001*
6. Health motivation	0.39	<0.001*

* $p<0.05$

Table 4 Predictors of health promotion behaviors for musculoskeletal disorders prevention musculoskeletal disorders of red car taxi drivers in Chiang Mai Province

Predictor factors	b	Std. Error	β	p-value	VIF
1. Self-efficacy	0.41	0.06	0.39	<0.001	1.11
2. Health motivation	0.22	0.05	0.28	<0.001	1.11
3. Perceived susceptibility	0.24	0.06	0.24	<0.001	1.01

$R=0.57$, $R^2=0.33$, SEE=0.24, $F=18.19$, sig. of $F<0.001$

Discussion

This study aimed to assess the relationship between the health belief model and health promotion behaviors for musculoskeletal disorders prevention among the red car taxi drivers in Chiang Mai Province which discussed the results of the study according to the objectives.

Red car taxi drivers had a high level of overall health perception about musculoskeletal disorders. Moreover, perceived susceptibility, perceived severity, perceived benefit, self-efficacy, and health motivation were in the high level, this explains that they get annual health checks 70.3%, receive health information from various advertising media, including radio and television 72.6%. Therefore, they attended and changed their behavior for health care. However, perceived barriers to acting were in the moderate level and found that the average score was the least, this explains that some red car taxi drivers feel that exercise after work and, stretching exercise can be difficult inconvenient. If they must stop working for care themselves, they may lack income and lead to loss of money which is a barrier to health promotion behaviors for musculoskeletal disorders prevention. Accord-

ing to Becker MH defined that anything interferes with health-promoting behaviors it lead to avoidable behaviors[25]. In this study, perceived susceptibility has the highest average score and can predict health promotion behaviors for musculoskeletal disorders prevention musculoskeletal disorders. Therefore, perceived susceptibility should be promoted in the red car taxi drivers to change their behavior.

The results revealed that health responsible behavior was at a high level because red car taxi drivers were careful about their health and treat themselves. In addition, it was found that the red car taxi drivers had a high level of overall health perception about musculoskeletal disorders as to result in health responsible behavior. Overall health promotion behaviors and each part consisting of physical activity behavior and exercise, nutritional behavior, and stress management behaviors were at a moderate level, this explained that the red car taxi drivers hurried up and did not rest during the day, staying in the same position for a long time and did not have time to exercise. The average scores found that physical activity behavior and exercise had the lowest mean scores. Therefore, they should be encouraged to change their posture during driving frequently, exercise to improve flexibility and muscle strength regularly, and enough rest to promote behaviors for musculoskeletal disorders prevention among red car taxi drivers

The study showed the relationship between the health belief model and health promotion behaviors for musculoskeletal disorders prevention among red car taxi drivers. Overall health perception had positively low correlation to health promotion behaviors (table 3, r=0.40, p-value <0.05). According to health belief concept of Becker MH, et al., perceived susceptibility, perceived severity, perceived benefit, perceived barriers to acting, health motivation, and modifying factors have led the motivation to health behaviors to prevent disease[26]. Moreover, Bandura A's theory suggested that persons who achieve a goal they must have self-efficacy and perceived health beliefs[27]. This study analyzed the relationship between each part of health belief and health promotion behaviors for musculoskeletal disorders prevention.

Perceived susceptibility was significantly positive related to health promotion behaviors for musculoskeletal disorders prevention with a statistical significance explaining that the red car taxi drivers agreed with the inappropriate posture, sitting in the same position for a long time, repetitive movement, the seat unsuitable backrest, disturbing noise, and hot weather. These might induce irregularities in the musculoskeletal system if they did not stretch their muscles while driving. According to the concept of Stretcher VJ, Rosenstock IM, persons who have the belief of understand risk of illness, will affect the practice of their health behaviors[28].

Perceived benefit was significantly positive related to health promotion behaviors for musculoskeletal disorders prevention, this explains that the red car taxi drivers knew the impact of musculoskeletal injuries which causes absenteeism, loss of income, and medical expenses. If the musculoskeletal injuries accumulate for a long time, it could lead to disability. According to the health belief concept of Becker MH, et al., perceived of benefit can avoid illness, promote health care, and prevent diseases[26]. A previous study found that perceived benefit significantly positive related to health promotion behaviors of low back pain patients who received services at orthopedic division

Maharaj Nakorn Chiang Mai hospital[23].

Self-efficacy was significantly positive related to health promotion behaviors for musculoskeletal disorders prevention. This explains that red car taxi drivers had a high level of self-efficacy who observed injuries of the body, followed the instructions, and applied the knowledge to prevent musculoskeletal disorders correctly to decrease chronic musculoskeletal disorders. According to Bandura A, a person's behavior arises from the learning process. Health promotion behaviors must have self-efficacy and expect good health which promotes healthy behaviors[20]. A previous study found that the self-efficacy relationship between perceived benefits the dementia preventive behaviors in older adults was significant[29].

Health motivation was significantly positive related to health promotion behaviors for musculoskeletal disorders prevention. This explains that the red car taxi drivers had a treatment plan. Then also recognize the severity of musculoskeletal injuries, motivated in health care, and the family and friends supported health care information. According to health belief concept of Becker MH, motivation of health promotion behaviors prevention was caused by interest in own health, belief in disease, social factors, and health information about the disease[25]. A previous study found that health motivation was positively correlated to their self-care behavior with a statistical significance[30].

Perceived barriers to acting were significantly negative related to health promotion behaviors for musculoskeletal disorders prevention. Perceived barriers to acting made the red car taxi drivers complicated, waste of money and time. which avoids or leads to decrease in health behaviors. When the population compared the barriers and benefits, they will behave appropriately. A previous study revealed that perceived barriers were negatively related to practiced health-promoting behavior of patients with low back pain with statistical significance[24]. Moreover, the concept of the health belief model explains that perceived barriers will compare with the value of the benefits from the practice. If the negative side has more influence than the positive side, healthy behaviors will be avoided[28].

Perceived severity was not related to health promotion behaviors for musculoskeletal disorders prevention most red car taxi drivers ignored treatment when they have symptoms of musculoskeletal disorders (33.3%) because they believe that effects of musculoskeletal disorders can't sudden death. In addition, they had 11-20 years of driving experience (30.6%) leads to habituation with poor posture and musculoskeletal injuries. They did not have enough knowledge about severity of musculoskeletal disorders. Therefore, they did not change health promotion behaviors for musculoskeletal disorders prevention. Sharafkhani N, et al. reported that the study showed no correlation between perceived severity and the performance of low back pain preventive behaviors[31].

Regarding the coefficients of regression (Beta), the results revealed that self-efficacy, health motivation, and perceived susceptibility were significant influencing factors. They predicted 33 % of the variation in health promotion behaviors. Three factors significantly influenced health promotion behaviors for musculoskeletal disorders prevention. Self-efficacy was the most predictor of health promotion behaviors. These factors were important for musculoskeletal disorders prevention, especially self-efficacy. The results were in accordance with the health belief mod-

el that perceived susceptibility, perceived severity, perceived benefit, self-efficacy, Perceived barriers to acting, and health motivation led to the practice of musculoskeletal disorders prevention and being successful[25,27].

Limitations of our study include the method that the participants were chosen by convenience sampling method, which may not be generalizable to the other population setting. Therefore, random sampling should be used in future studies. In this study, the red car taxi drivers were over 22 years old which did not limit the maximum age. The most of participants were 51-65 years old (62.1 %). However, age affects musculoskeletal disorders and perception of health beliefs related to health promotion behaviors for musculoskeletal disorders prevention. Data were collected from 219 red car taxi drivers by using a questionnaire. It should be adapted from previous studies with the most similar samples and increased the power of the statistical test in the study.

Recommendations

Future studies should use qualitative tools including group discussion, and in-depth interviews about the perception of health beliefs related to health promotion behaviors. In this study, the factors could predict 33 % of Promotion Behaviors for musculoskeletal disorders prevention among red car taxi drivers in Chiang Mai Province. Therefore, other factors should be studied further in the future such as personal factors, feelings towards behavior, the influence of the situation, and commitment to behavior. Moreover, self-efficacy, health motivation, and perceived susceptibility influence factors to prevent musculoskeletal disorders. Therefore, they should be the guideline for creating and developing programs for musculoskeletal disorders prevention.

Conclusion

Overall health perception had significantly positive relation to health promotion behaviors. Factors significantly positive were related to health promotion behaviors for musculoskeletal disorders prevention among red car taxi drivers consisting of perceived susceptibility, perceived benefit, self-efficacy, and health motivation. Perceived barriers were significantly negative related to health promotion behaviors. There was no correlation between perceived severity and health promotion behaviors. In this study self-efficacy, health motivation, and perceived susceptibility were predictors with 33 % of the variation in health promotion behaviors. From the results of the study, perception of health belief was an important factor that changes health behaviors to prevent musculoskeletal disorders among red car taxi drivers.

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บทคัดย่อ: ความสัมพันธ์ระหว่างแบบแผนความเชื่อด้านสุขภาพและพฤติกรรมส่งเสริมสุขภาพสำหรับการป้องกันอาการผิดปกติทางระบบโครงร่างและกล้ามเนื้อในพนักงานขับรถโดยสารรับจ้างจังหวัดเชียงใหม่

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การวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาความสัมพันธ์ระหว่างแบบแผนความเชื่อด้านสุขภาพและพฤติกรรมส่งเสริมสุขภาพในการป้องกันอาการผิดปกติทางระบบโครงร่างและกล้ามเนื้อของพนักงานขับรถโดยสารรับจ้างสี่ล้อแดงในจังหวัดเชียงใหม่ ทำการศึกษาในพนักงานขับรถโดยสารรับจ้างสี่ล้อแดงในจังหวัดเชียงใหม่ จำนวน 219 คน เครื่องมือที่ใช้ในงานวิจัยเป็นแบบสอบถามประกอบด้วย ข้อมูลส่วนบุคคล แบบแผนความเชื่อด้านสุขภาพเกี่ยวกับอาการผิดปกติทางระบบโครงร่างและกล้ามเนื้อ และระดับของพฤติกรรมส่งเสริมสุขภาพในการป้องกันอาการผิดปกติทางระบบโครงร่างและกล้ามเนื้อ วิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณนา สถิติสัมประสิทธิ์สหสัมพันธ์แบบสเปียร์แมน และการวิเคราะห์สมการถดถอยพหุคูณ ผลการศึกษาพบว่า การรับรู้ตามแบบแผนความเชื่อด้านสุขภาพโดยรวม การรับรู้ความเสี่ยงต่อการเกิดอาการผิดปกติทางระบบโครงร่างและกล้ามเนื้อ การรับรู้ประโยชน์ของการปฏิบัติ การรับรู้ความสามารถตนเอง และแรงจูงใจด้านสุขภาพมีความสัมพันธ์ทางบวกกับพฤติกรรมส่งเสริมสุขภาพในการป้องกันอาการผิดปกติทางระบบโครงร่างและกล้ามเนื้ออย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 (r=0.40, 0.17, 0.18, 0.45, 0.39 ตามลำดับ) การรับรู้อุปสรรคของการปฏิบัติมีความสัมพันธ์ทางลบอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 (r=-0.16) ส่วนการรับรู้ความรุนแรงไม่มีความสัมพันธ์กับพฤติกรรมส่งเสริมสุขภาพในการป้องกันอาการผิดปกติทางระบบโครงร่างและกล้ามเนื้อ ทั้งนี้พบว่าการรับรู้ความสามารถตนเอง ปัจจัยร่วมการรับรู้ความเสี่ยงต่อการเกิดอาการผิดปกติทางระบบโครงร่างและกล้ามเนื้อและแรงจูงใจด้านสุขภาพ สามารถทำนายพฤติกรรมส่งเสริมสุขภาพในการป้องกันอาการผิดปกติทางระบบโครงร่างและกล้ามเนื้อของพนักงานขับรถโดยสารรับจ้างสี่ล้อแดงได้ร้อยละ 33.0 (R^2=0.33, p<0.05) ผลการศึกษานี้สามารถใช้เป็นข้อมูลพื้นฐานในการวางแผนจัดกิจกรรมเพื่อดำเนินการส่งเสริมพฤติกรรมในการป้องกัน ลดโอกาสเสี่ยงต่อการเกิดอาการผิดปกติทางระบบโครงร่างและกล้ามเนื้อ

คำสำคัญ: ความเชื่อด้านสุขภาพ; พฤติกรรมส่งเสริมสุขภาพ; อาการผิดปกติทางระบบโครงร่างและกล้ามเนื้อ; พนักงานขับรถโดยสารรับจ้าง