

Original Article

Satisfaction Evaluation on Annual Physical Examination Services for Army Personnel Provided by Armed Forces Research Institute of Medical Sciences

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Objective : To evaluate satisfaction on annual physical examination services for army personnel provided by Armed Forces Research Institute of Medical Sciences (AFRIMS). **Materials and Methods :** A cross-sectional study was conducted during the annual physical examination in fiscal year 2008 from 378 army personnel selected by stratified random sampling technique. Data were collected by self-rating questionnaire that had tested construct validity by factor analysis and the Cronbach's alpha coefficient reliability was 0.96. **Results :** Most of them were men (76.6%), non-commissioned officer (49.5%), at the age between 41-50 (39.8%), married (70.5%), undergraduated (59.3%), with average income between 10,001-20,000 baht/month (53.6%), and used to participate in this services (91.1%). Overall, courtesy aspect, information and convenience aspect, and readiness and adequacy aspect satisfaction of the army personnel were at the highest (mean \pm SD = 4.3 \pm 0.5), highest (mean \pm SD = 4.3 \pm 0.6), high (mean \pm SD = 4.2 \pm 0.6), and highest level (mean \pm SD = 4.3 \pm 0.5), respectively. There was no significant difference in satisfaction when compared with gender, rank, age, marital status, educational level, income, and number of participating time. **Conclusion :** Proactive services at military units have been served many aspects of needs for army personnel including accessibility, convenience, and timesaving. Therefore, those services have been satisfied at high to highest level and personal characteristics did not related with satisfaction.

Key words: ● Satisfaction ● Physical examination ● Army personnel

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Introduction

The most important goal of service is how to satisfy customer and make them return. Satisfaction has been defined as the pleasant feeling that person

gets when receiving something they want¹. Therefore, it is necessary for providers to know and understand what they need or expect in order to make continuous quality improvement for serving them. In health care service, one strategy for making satisfaction is to provide in proactive style². This will make satisfaction because of timesaving, convenience, and less expense for transportation³. However, the service must have

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quality and satisfaction.

Armed Forces Research Institute of Medical Sciences (AFRIMS) has conducted "Annual physical health examination for army personnel at their installations in Bangkok and its perimeters project" since 2002. Health information survey and physician advice have been provided along with physical examination in order to increase convenience and opportunity to access health service for army personnel. This proactive service is accord with one strategic plan of the 10th National economic and social developmental Plan⁴ and Royal Thai Army Medical Department policies that emphasize on health promotion and prevention more than treatment.

For five years, AFRIMS has developed health care service by providing physical examination, counseling doctors, modern equipments, and individual health report including health care advice. However, all those things were taken place by provider aspects only. For efficiently serving customer needs, so it is necessary to evaluate their satisfaction with AFRIMS service in order to get useful information for improving quality of care that customers expect.

Materials and Methods

A cross-sectional survey was conducted during the annual physical examination in fiscal year 2008. The study protocol was approved by the Ethical Review Committee of the Royal Thai Army Medical Department. Self-rating questionnaire was constructed to evaluate satisfaction on annual physical examination services for army personnel in three aspects: courtesy, information and convenience, and readiness and adequacy. The questionnaires were tested for construct validity by using factor analysis and Cronbach's alpha coefficient was used to test reliability of 0.96. All subjects were selected by stratified random sampling technique from

five military units. The sample size was calculated by addition to 10%, then total 415 persons were recruited.

Statistical analysis

Characteristics data were presented as frequency and percentage while satisfaction data were mean and standard deviation. Independent t-test and one-way ANOVA were used as analytical statistics for comparison at the significant level of .05.

Results

There were 378 subjects (91.1%) returned questionnaires and included in the analysis. Most of them were men (76.6%), non-commissioned officer (49.5%), at the age between 41-50 (39.8%), married (70.5%), undergraduated (59.3%), with average income between 10,001-20,000 baht/month (53.6%), and used to participate in this services (91.1%) (Table 1).

The mean rating of satisfaction was 4.25 (SD=0.50), implying that overall satisfaction was at the highest level. For each aspect of satisfaction rating, courtesy, information and convenience, and readiness and adequacy, the mean rating were 4.29 (SD=0.55), 4.18 (SD=0.56), 4.26 (SD=0.53), respectively (Table 2).

When satisfaction rating scales were compared by characteristics data: gender, rank, age, marital status, educational level, income, and number of participating time, it was found that there was no difference between groups (Table 3, 4).

Discussion

Regarding the patient satisfaction in terms of courtesy, information and convenience, and readiness and adequacy, all aspects showed high to highest level of satisfaction. The highest average score was for courtesy (*mean* = 4.29), followed by readiness and adequacy (*mean* = 4.26) and information and convenience (*mean* = 4.23) respectively.

Table 1 Number and percentage of subjects classified by characteristics data

Data	N	Number	Percentage
Rank	368		
Commissioned officer		97	26.4
Non-commissioned officer		182	49.5
Employee		89	24.2
Gender	351		
Male		269	76.6
Female		82	23.4
Age (Year)			
20 or less	369	3	0.8
21-30		55	14.9
31-40		81	22.0
41-50		147	39.8
More than 50		83	22.5
Marital status	369		
Single		90	24.4
Married		260	70.5
Divorced/Widowed		19	5.1
Educational level	371		
lower than Bachelor		220	59.3
Bachelor		115	31.0
Higher than Bachelor		36	9.7
Income (Baht/month)	373		
5,000 or less		7	1.9
5,001-10,000		64	17.2
10,001-20,000		200	53.6
20,001-30,000		77	20.6
More than 30,000		25	6.7
Number of participating time	372		
Never		33	8.9
1-2		142	38.2
3-4		91	24.5
5 or more		106	28.5

Table 2 Mean, standard deviation, and level of satisfaction classified by three aspects

Satisfaction aspect	N	Mean (SD)	Level
1. Courtesy	370	4.29(0.55)	Highest
2. Information and convenience	370	4.18(0.56)	High
3. Readiness and adequacy	376	4.26(0.53)	Highest
Total	369	4.25(0.50)	Highest

Table 3 Mean comparison of satisfaction rating scale classified by gender using t-test

Gender	Mean	SD	t	p-value
Male	4.25	0.51	0.94	0.35
Female	4.19	0.46		

Table 4 Mean comparison of satisfaction rating scales classified by characteristics data using one-way ANOVA

Characteristics	Mean	SD	F	p-value
Rank				
Commissioned officer	4.16	0.49	1.78	0.17
Non-commissioned officer	4.27	0.52		
Employee	4.57	0.47		
Age				
20 or less	4.29	0.44	0.43	0.79
21-30	4.16	0.45		
31-40	4.23	0.51		
41-50	4.25	0.52		
More than 50	4.27	0.51		
Marital status				
Single	4.16	0.45	1.54	0.22
Married	4.26	0.52		
Divorced/Widowed	4.26	0.48		
Educational level				
Lower than Bachelor	4.27	0.49	1.12	0.33
Bachelor	4.22	0.54		
Higher than Bachelor	4.14	0.46		
Income (Baht/month)				
5,000 or less	4.36	0.58	0.19	0.96
5,001-10,000	4.23	0.49		
10,001-20,000	4.23	0.51		
20,001-30,000	4.26	0.50		
More than 30,000	4.24	0.42		
Number of participating times				
Never	4.26	0.43	1.47	0.22
1-2	4.28	0.51		
3-4	4.15	0.51		
5 or more	4.26	0.50		

According to the results, employees were more satisfied than officers, single army personnel were less satisfied than married ones, army personnel who had lower education level than bachelor degree were more satisfied than higher, and those who had income 5,000 or less were more satisfied than higher. It could be concluded that providing services at military units have made more satisfaction in lower class group. This could also reflect the need and demand to access health care service of those in passive manner.

When relationships between socio-demographic characteristics and satisfaction were considered, it was found that gender, age, rank, marital status,

education, income, and number of participating time did not associate with satisfaction. This findings were supported by some prior studies^{5,6}, but Net³ found that only gender was significant related with satisfaction whereas Kampragob⁷ found that gender, education, and number of participating time were significant related with satisfaction.

As previous mentioned, it is noted that the association between socio-demographic characteristics and satisfaction have been studied in numerous occasions, but the consistent picture of them has not happened. Since satisfaction refers to feeling of personnel to something positively thinking affects to pressure happen⁸, therefore

various natures and background characteristics of studied sample may affect the results. However, this study was conducted in military units and most of participants were non-commissioned officers and employees, so that these could inevitably influence their answers although they got information that their answers did not affect to health services those were provided.

Conclusion

Proactive services at military units have been served many aspects of needs for army personnel including accessibility, convenience, and timesaving. Therefore, those services have been satisfied at high to highest level and personal characteristics did not related with satisfaction. However, their opinions and suggestions would be considered for more quality improvement.

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การประเมินความพึงพอใจของกำลังพลกองทัพบกต่อการตรวจร่างกายประจำปี ของ สถาบันวิจัยวิทยาศาสตร์การแพทย์ทหาร

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สถาบันวิจัยวิทยาศาสตร์การแพทย์ทหาร กรมแพทย์ทหารบก

วัตถุประสงค์ : เพื่อประเมินความพึงพอใจของกำลังพล ทบ. ต่อการบริการตรวจร่างกายประจำปีของ สวพท. ณ ที่ตั้งหน่วย วัสดุ และวิธีการ : การศึกษาแบบตัดขวาง กลุ่มตัวอย่างคือ กำลังพล ทบ. ในหน่วยทหารเขต กทม. และปริมณฑล ที่ได้เข้ารับการตรวจร่างกายประจำปี ตามโครงการ “การบริการตรวจร่างกายประจำปี และการส่งเสริมสุขภาพทหาร” ในปีงบประมาณ 2551 เลือกตัวอย่างโดยวิธีสุ่มตัวอย่างแบบแบ่งชั้นภูมิ (stratified random sampling) จำนวน 378 ราย เก็บรวบรวมข้อมูลโดยใช้แบบสอบถามที่ผู้วิจัยสร้างขึ้น ซึ่งผ่านการทดสอบความตรงเชิงโครงสร้าง (construct validity) โดยใช้สถิติวิเคราะห์องค์ประกอบ (factor analysis) และมีค่าความเชื่อมั่น (reliability) เท่ากับ 0.96 **ผลการศึกษา :** กำลังพลส่วนมากเป็นเพศชาย (ร้อยละ 76.6) นายทหารชั้นประทวน (ร้อยละ 49.5), อายุระหว่าง 41-50 ปี (ร้อยละ 39.8) สถานภาพสมรสคู่ (ร้อยละ 70.5) จากการศึกษาต่ำกว่าระดับปริญญาตรี (ร้อยละ 59.3) รายได้เฉลี่ยต่อเดือน 10,001-20,000 บาท (ร้อยละ 55.6) และเคยรับบริการตรวจร่างกายประจำปีโดย สวพท.มาก่อน (ร้อยละ 91.1) กำลังพลมีความพึงพอใจต่อการบริการตรวจร่างกายประจำปีของ สวพท. โดยรวมอยู่ในระดับดีมาก (ค่าเฉลี่ย 4.3 ± 0.5) ส่วนในรายด้านซึ่งประกอบด้วย 3 ด้าน ได้แก่ ด้านอธิบายคัยในการบริการ ด้านการได้รับข้อมูลและความลับ และความพึงพอใจในการให้บริการ กำลังพลมีความพึงพอใจอยู่ในระดับมากที่สุด (ค่าเฉลี่ย 4.3 ± 0.6) มาก (ค่าเฉลี่ย 4.2 ± 0.6) และมากที่สุด (ค่าเฉลี่ย 4.3 ± 0.5) ตามลำดับ และเมื่อเปรียบเทียบความพึงพอใจตามคุณลักษณะที่ต่างกัน ได้แก่ เพศ ชั้นยศ อายุ สถานภาพสมรส ระดับการศึกษา รายได้ และจำนวนครัวเรือนที่เคยมาใช้บริการ พบว่ากำลังพลมีความพึงพอใจต่อการบริการตรวจร่างกายประจำปีของ สวพท. ไม่แตกต่างกัน **สรุป :** การบริการตรวจร่างกายประจำปีแก่กำลังพล ทบ. เป็นการส่งเสริมสุขภาพเชิงรุก ทำให้กำลังพลสามารถเข้าถึงบริการได้โดยสะดวก รวดเร็ว และประหยัดเวลา ทำให้กำลังพลมีความพึงพอใจต่อบริการดังกล่าวในระดับมากถึงมากที่สุด โดยเมื่อเปรียบเทียบความพึงพอใจตามคุณลักษณะของกำลังพลที่ต่างกัน พบว่ามีความพึงพอใจไม่แตกต่างกัน

Key words: ● Satisfaction ● Physical examination ● Army personnel

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