International Journal of ChemTech Research
CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.11 No.06, pp 261-268, 2018

Characteristics of Musculoskeletal Injury Patients Refusing Action from Orthopaedi

Jeff Loren[1]*, Otman Siregar[2]

[1]Resident of Orthopaedic and Traumatology, Faculty of Medicine University of Sumatera Utara/ Haji Adam Malik Hospital-Medan
[2]Consultant of Orthopaedic and Traumatology, Spine Division, Faculty of Medicine University of Sumatera Utara/ Haji Adam Malik Hospital-Medan, Indonesia

Department of Orthopaedics and Traumatology, Faculty of Medicine University of Sumatera Utara/ Haji Adam Malik Hospital-Medan, Indonesia

Abstract : Objective : The purpose of this study was to determine the characteristics of orthopedic patients with musculoskeletal injuries that refused the action at RSUP H. Adam Malik Medan.

Material and Methods :
A total of 228 patients refused the action that began in August 2016 until August 2017 with a retrospective descriptive study with cross-sectional approaches that entered into the inclusion criteria included in the study by looking at patient demographics, educational level, patient ethnic, refusal reasons, patient diagnosis, plan of actions/treatment, modes of payment, mode of payment for reasons of refusal, and level of education for reasons of rejection of patients who reject acts of orthopaedi.

Results : Characteristics of patients refuse the most acts are men (76.7%), with an average age of 18-32 years, high school education (42.1%), originating ethnic from Batak (50%), reason refusal of treatment due to bone setter(54.38%), closed fracture cases (57,46%), refused to open reduction internal fixation treatment (42.54%), and private payment status (57.02%).

Conclusion : The results of this study can be concluded that the largest accidents are in productive age with male gender whereas the mode of payment and the level of education of the patient does not affect the reason for the rejection of the patient. Changes or increases in public knowledge about health are not matched by an improvement or a change in their behavior.

Key words : Characteristics of patients, Refusing Action, Musculoskeletal Injury.

Introduction

The cultural history of mankind starts from four ancient cultural centers, namely Babylon, Egypt,

DOI= http://dx.doi.org/10.20902/IJCTR.2018.110634

Greece, and Rome. From the records of the relics is known that the government at that time has made efforts to eradicate the disease.[1,10]

Several factors affecting health status are the environment consisting of physical environment, social culture, economy, behavior, heredity, and health service. The socio-cultural environment not only affects the health status, but also affects the behavior of one's health.[5,11]

Patient rights vary across countries and within different jurisdictions, depending on prevailing cultural and social norms.[9]Motor vehicle accidents are a significant cause of morbidity and mortality in the United States. According to the Centers for Disease Control and Prevention (CDC), nearly 44,000 people died from motor vehicle accidents in 2006. Among children over one year of age and all ages in adults, motor vehicle injuries are the leading cause of death . In 2007, approximately 3.2 million people suffered non-fatal injuries caused by traffic accidents, resulting in traffic accidents being the fourth most common cause of nonfatal deaths in 2007.[6]

From patient data due to traffic accidents in Taiwan state, orthopedic fractures accounted for 29.36% compared to other injuries. There are 391,197 orthopedic cases divided into three groups: upper limb fractures, lower leg fractures, and vertebral fractures and torso.[7]

In 2016, based on SIRS source in RSUP H. Adam Malik Medan, found 1039 cases of traffic accidents treated at IGD RSUP H. Adam Malik, and 462 cases of which is an injury to Orthopedics. In the case of orthopedic injuries most commonly encountered is an injury to the lower limb of as many as 242 cases. Patients with chest trauma (Blunt Thoracal Injury) and abdominal (Blunt Abdominal Injury) were 49 cases and 60 cases. Of the 1039 cases of traffic accidents at IGD RSUP H. Adam Malik, 79 cases died in the ER.[15]

With these problems, health workers who provide health services to people with diverse cultural backgrounds need to know the characteristics of patients or the communities they serve, so that the health services provided to the community will provide optimal results, which is to improve public health.[2] Therefore, it is necessary to conduct research on the Characteristics of Orthopedic Patients of Musculoskeletal Injuries that reject the treatment at RSUP H. Adam Malik Medan.

Methods

This was a retrospective cross sectional study was conducted at Medical Faculty ofUniversity Sumatera Utara / Haji Adam Malik Hospital, North Sumatera, Indonesia for the duration 1 year from August 2016until August 2017 by collecting patient data. Mode of collecting sample in this study was perform by all patient that entering emergency ward with musculoskeletal injury that need any investigation or treatment but patient or family of patient refused was collected to become sample.[13,14]

All statistical calculation were performed using computer based statistic programme. The study approved by the Health Research Ethical Committee of Medical Faculty of University Sumatera Utara / Haji Adam Malik Hospital..

Results

The study include 228 patients that refused investigation/ treatment who entering at the Emergency Installation RSUP. Haji Adam Malik Medan.It shows that the distribution of sample subjects rejects orthopedic action is 228 subjects with women as many as 50 people (21.6%) and men as many as 178 people (76.7%).

Table 1.Distribution of patient characteristics who refusal treatment based on sex.

Variable	**Summary**
Male, n(%)	50 (21,6%)
Female, n(%)	178 (76,7%)

Indicates that the distribution of subject samples rejected the orthopedic action with the youngest age of the 1 year old study subjects and the eldest age of the 85 year study subjects as much as 1 person with mean and standard deviation of 32.64 ± 18.27 years.

Table 2. Distribution of patient characteristics who refusal treatment based on age

Variable	Summary
Youngest	1 year
Eldest	85 year
Mean	32,64 ± 18,27

It shows that the distribution of the number of samples is based on the level of education. From the data collected, there were 2 (0.87%) of the kindergartens, male (1.1%), elementary school 28 (12,2%) of the people, of which 21 (11.8%) were male and 7 (14%) were women, junior high school 64 (28%), 47 (26.4%) were men and 17 (34%) were women, senior high school 96 (42,1%) of whom 80 (44.9%) were male and 16 (32%) were women, college/ degree as many as 30 (13.2%) persons and were males 23 (12.9%), and 7 (14%) were women, and Uneducated 8 (3.5%) and 5 (2.8%)were male, and 3 (6%) were women.

Table 3. Distribution of patient characteristics who refusal treatment based on education level

Variable	Sex		Summary
	Male (n=178)	**Female (n=50)**	**(n=228)**
K, n(%)	2 (1,1%)	0 (0%)	2 (0,87%)
E, n(%)	21 (11,8%)	7 (14%)	28 (12,2%)
J, n(%)	47 (26,4%)	17 (34%)	64 (28%)
S, n(%)	80 (44,9)	16 (32%)	96 (42,1%)
C, n(%)	23 (12,9%)	7 (14%)	30 (13,2%)
U, n(%)	5 (2,8%)	3 (6%)	8 (3,5%)
K, Kindergartens; **E**, Elementary school; **J**, Junior high school; **S**, Senior high school; **C**, College/ degree; **U**, Uneducated; **n,** number of subject.			

Table 4.Distribution of patient characteristics who refusal treatment based on etchnic

Variable	Sex		Summary
	Male (n=178)	**Female (n=50)**	**(n=228)**
Aceh, n(%)	3 (1,69%)	2 (4%)	5 (2,19%)
Batak, n(%)	88 (49,4%)	26 (52%)	114 (50%)
Javanese, n(%)	51 (28,7%)	11 (22%)	62 (27,19%)
Karo, n(%)	9 (5,1%)	3 (6%)	12 (5,26%)
Mandailing, n(%)	3 (1,69%)	0 (0%)	3 (1,32%)
Malay, n(%)	13 (7,3%)	7 (14%)	20 (8,77%)
Nias, n(%)	4 (2,24%)	0 (0%)	4 (1,75%)
Padang, n(%)	4 (2,24%)	1 (2%)	5 (2,19%)
Tionghoa, n(%)	3 (1,69%)	0 (0%)	3 (1,32%)
n, number of subject			

Indicates that the distribution of sample quantities based on patient characteristics rejects action based on ethnic.Visible ethnic of patients who seek treatment at Emergency Installation RSUP. Haji Adam Malik Medan mostly came from the Batakethnic of 114 (50%) of whom 88 men (49,4%) and women 26 (52%), Javanese ethnic as many as 62 (27,19%) people among 51 men (28.7%)and women 11 (22%), Malay ethnic as many as 20 (8.77%) among men 13 (7.3%) men and women 7 (14 %), Karoethnic as many as 12 (5.26%) among men 9 (5.1%) and women 3 (6%), Aceh ethnic as many as 5 (2.19%) among men 3 (1.69%) and women 2 (4%), Padang ethnic as many as 5 (2.19%) among men 4 (2.24%) and women 1 (2%), Niasethnic as many as 4 (1.75%) of whom 4 men (2.24%) and women 0 (0%), Mandailingethnic and Tionghoaethnic respectively 3 (1.32%) people and all were male 3 (1.69%).

Table 5.Distribution of patient characteristics who refusal treatment based on reason of the rejection

Variable	Sex		Summary
	Male(n=178)	**Female (n=50)**	**(n=228)**
Alternative, n(%)	97 (54,49%)	27 (54%)	124 (54,38%)
Cost, n(%)	43 (24,15%)	12 (24%)	55 (24,12%)
Fear of Surgery, n(%)	35 (19,66%)	11 (22%)	46 (20,17%)
Postpone, n(%)	3 (1,68%)	0 (0%)	3 (1,31%)
n, number of subject			

Indicates that the distribution of the sample quantities based on the patient's characteristics rejects the action on the reason of the rejection. Of the total sample, the reason for the rejection of the action was domination by wanting alternative (bone setter) treatment as much as 124 (54,38%) of whom were 97 men (54,49%) and 27 (54%) people, while others is the cost factor of 55 (24.12%) of the people among the men 43 (24.15%) and women 12 (24%), fear factor of surgery is 46 people (20.17%) of whom male 35 (19,66%) and women 11 (22%), the postpone factor is 3 (1.31%) people and all of them are male 3 (1.68%).

Table 6.Distribution of patient characteristics who refusal treatment based on diagnose

Variable	Sex		Summary
	Male (n=178)	**Female (n=50)**	**(n=228)**
CF, n(%)	99 (55,61%)	32 (64%)	131 (57,46%)
CI, n(%)	1 (0,56%)	0 (0%)	1 (0,78%)
CS, n(%)	1 (0,56%)	0 (0%)	1 (0,78%)
DL, n(%)	2 (1,12%)	0 (0%)	2 (0,87%)
LW, n(%)	9 (5,05%)	5 (10%)	14 (6,14%)
OF, n(%)	47 (26,40%)	9 (18%)	56 (24,56%)
RT, n(%)	4 (2,24%)	1 (2%)	5 (2,19%)
SF, n(%)	5 (2,81%)	1 (2%)	6 (2,63%)
TA, n(%)	10 (5,61%)	0 (0%)	10 (4,38%)
Tumor, n(%)	0 (0%)	2 (4%)	2 (0,87%)
CF, *Closed Fracture*; **CI,** *Crush Injury*; **DL,***Death Limb***; LW,** *Lacerated Wound*; **OF,** *Open Fracture*; **RT,** *Rupture Tendon*; **SF,** *Spine Fracture*; **TA,** *Traumatic Amputation*; **CS**, *Compartment Syndrome*; **n,** number of subject			

Indicates that the distribution of the sample number of patient characteristics rejects the action on the base of the diagnose. Patients with closed fractures who rejected the action were the most frequent of 131 (57.46%) of whom 99 (55.61%) were men and 32 women (64%) while in the case of open fracture of 56 (24.56%) people, among them 47 (26.40%) men and women 9 (18%), while judging from the case, one case of crush injury and compartment syndrome whom were men (0, 78%),death limb of 2 cases(0.87%) and was male 2 (1.12%), lacerated wound 14 (6.14%) people, among them 9 men (5.05%) and women 5 (10%), tendon rupture 5 (2.19%) people, among them men 4 (2.24%) and women 1 (2%), spine fracture of 6 (2.63%) people, among them male 5 (2.81%) and women 1 (2%), traumatic amputation as much as 10 (4.38%) people and all were men 10 (5.61%), 2 casesof tumors (0.87%) and all women 2 (4%).

Table 7.Distribution of patient characteristics who refusal treatment based on the therapy / action plan

Variable	Sex		Summary
	Male (n=178)	**Female (n=50)**	**(n=228)**
Amputation, n(%)	2 (1,12%)	0 (0%)	2 (0,87%)
Casting, n(%)	6 (3,37%)	3 (6%)	9 (3,95%)
CR, n(%)	1 (0,56%)	1 (2%)	2 (0,87%)
Debridement, n(%)	63 (35,39%)	13 (26%)	76 (33,33%)
Excision, n(%)	0 (0%)	1 (2%)	1 (0,47%)
Fasciotomy, n(%)	1 (0,56%)	0 (0%)	1 (0,47%)
Hemiarthroplasty, n(%)	0 (0%)	2 (4%)	2 (0,87%)
ORIF, n(%)	76 (42,69%)	21 (42%)	97 (42,54%)
PS, n(%)	1 (0,56%)	0 (0%)	1 (0,47%)
SP, n(%)	5 (2,80%)	1 (2%)	6 (2,63%)
Limb Salvage/ Ablasi, n(%)	0 (0%)	1 (2%)	1 (0,47%)
Xray, n(%)	23 (12,92%)	7 (14%)	30 (13,15%)
CR, Closed Reduction; **ORIF,** Open Reduction Internal fixation; **PS,** Pelvic Sling; **SP,** Stabilisation Posterior; **n,** number of subject			

Indicates that the distribution of the sample number of patient characteristics rejects the action based on the therapy / action plan. The highest rejection action on open reduction internal fixation plan was 97 (42.54%) people, among them 76 men (42.69%) and women 21 (42%), debridement of 76 (33.33%) people, among them male 63 (35,39%) and women 13 (26%), xray counted 30 (13,15%) people, among men 23 (12,92%) and women 7 (14%), casting 9 (3.95%) people, among them men 6 (3.37%) and women 3 (6%), posterior stabilization of 6 (2.63%) people, among the men 5 (2.80%) and women 1 (2%), amputation of 2 cases (0.87%), among them were all men (1.12%), closed reduction as much as 2 cases (0.87%), among whom 1 (0.56%) men and women 1 (2%), one case excision (0.47%) of whom women (1%), fasciotomyand pelvic sling each of them 1 case (0.47%), for whom were male (0.56%), hemiarthroplasty 2 cases (0,87%), woman 2 (4%) , limb salvage / ablation 1 case (0.47%), for whom women (2%).

Table 8.Distribution of patient characteristics who refusal treatment based on mode of payment

Variable	Sex		Summary
	Male (n=178)	**Female (n=50)**	**(n=228)**
Private Insurance, n(%)	1 (0,56%)	0 (0%)	1 (0,44%)
Government Insurance, n(%)	69 (38,76%)	23 (46%)	92 (40,35%)
Traffic Department, n(%)	4 (2,25%)	1 (2%)	5 (2,19%)
Private payment, n(%)	104 (58,43%)	26 (52%)	130 (57,02%)
n, number of subject			

Indicates that the distribution of the sample number of patient characteristics rejects the action based on the mode of payment.Patients who seek treatment at Emergency Installation of RSUP. Haji Adam Malik Medan is mostly with private payment of 130 (57.02%) people, among them 104 men (58.43%) and women 26 (52%), government health insurance 92 (40.35 %) people, among them 69 (38.76%) men and women 23 (46%), private insurance of 1 (0.44%) person, male (0.56%), traffic department are 5 (2.19%), among them male 4 (2.25%) and women 1 (2%).

Table 9.Distribution of patient characteristics who refusal treatment based on mode of payment on the reasons of the refusal

Variable	Refusal Reason				Summary
	Alternative (n=124)	**Cost (n=55)**	**Fear of surgery (n=46)**	**Postpone (n=3)**	**(n=228)**
Private Insurance, n(%)	1 (0,81%)	0 (0%)	0 (0%)	0 (0%)	1 (0,44%)
Government Insurance, n(%)	54 (43,55%)	12 (21,82%)	26 (56,52%)	0 (0%)	92 (40,35%)
Traffic Department, n(%)	3 (2,42%)	2 (3,64%)	0 (0%)	0 (0%)	5 (2,19%)
Private payment, n(%)	66 (53,22%)	41 (74,55%)	20 (43,38%)	3 (100%)	130 (57,02%)
	n, number of subject				

Indicates that the distribution of the sample number of patient characteristics rejects the action based on the mode of payment on the reasons of the refusal.Patients who seek treatment at Emergency Installation of RSUP. Haji Adam Malik Medan is the most by private payment with alternative medicine (bone setter) as the reason for the refusal of 66 (53.22%) people, followed by cost reasons 41 (74,55%) people, fear of surgery 20 (43,38%) people, and postpone operation 3 (100%) people. Patients with government insurance who rejected the action due to alternative medical treatment 54 (43.55%) people, cost 12 (21.82%) people, fear of surgery 26 (56.52%) people, and postpone operation 0 (0%). Patients with claim by traffic department who rejected the action due to alternative treatment 3 (2.42%) people, cost 2 (3.64%) people, fear of surgery 0 (0%) people, and postpone operation 0 (0%). Patients with private insurance who refuse the action due to alternative medical treatment 1 (0.81%) person, cost, fear of surgery, and postpone operation 0 (0%).

Table 10.Distribution of patient characteristics who refusal treatment based on educational level on the reasons for the refusal treatment

Variable	Refusal Reason				Summary
	Alternative (n=124)	**Cost (n=55)**	**Fear of surgery (n=50)**	**Postpone (n=3)**	**(n=228)**
K, n(%)	0 (0%)	2 (3,63%)	0 (0%)	0 (0%)	2 (0,87%)
E, n(%)	16 (12,9%)	5 (9,09%)	7 (14%)	0 (0%)	28 (12,28%)
J, n(%)	34 (27,42%)	19 (34,55%)	11 (22%)	0 (0%)	64 (28,07%)
S, n(%)	47 (37,90%)	23 (41,82%)	23 (46%)	3 (100%)	96 (42,1%)
C, n(%)	22 (17,7%)	4 (7,27%)	4 (8%)	0 (0%)	30 (13,16%)
U, n(%)	5 (4,03%)	2 (3,64%)	1 (2%)	0 (0%)	8 (3,51%)
	K, Kindergartens; **E**, Elementary school; **J**, Junior high school; **S**, Senior high school; **C**, College/ degree; **U**, Uneducated; **n,** number of subject				

Indicates that the distribution of the sample number of patient characteristics rejects action based on educational level on the reasons for the refusal treatment. Patients with high school education level were the most and who choose alternative treatment 47 (37,9%) people, cost 23 (41,82%) people, fear of surgery 23 (46%), and postpone operation 3 (100%) people. Patients with junior high school education were the second most and who choose alternative treatment (27.42%), 19 (34.55%), fear of surgery 11 (22%), and postpone 0 (0%) people. Patients with elementary school education level were the third and choose alternative medicine 16 (12.9%) people, cost 5 (9.09%) people, fear of surgery 7 (14%), and postpone surgery 0 (0%). Patients with college/ degreeeducation level are the fourth most and who choose alternative treatment 22 (17,7%) people, cost 4 (7,27%) people, fear of surgery 4 (8%), and postpone operation 0 (0 %). Furthermore, it was followed by uneducated patients who choose alternative treatment 5 (4.03%) people, 2 cost (3.64%) people, fear of surgery

1 (2%), and postpone surgery 0 (0%). Patients with kindergarten education who choose alternative treatment 0 (0%) people, cost 2 (3,63%) people, fear of surgery 0 (0%), and postpone operation 0 (0%).

Discussion

The results of the study showed that the distribution of the sample based on sex is not divided equally, which is dominated by male gender as much as 76.7%, while the highest number in the age range 18 to 32 at the age of the patient refusing the action in the Emergency Installation RSUP. Haji Adam Malik Medan.

According to data from the Centers for Disease Control and Prevention (CDC) of 44,000 people who died from traffic accidents, where every four out of ten patients seeking emergency treatment were traffic accident patients in 2006.[6] Compared with the SIRS data source at RSUP H. Adam Malik Medan in 2016, patients who went to the emergency department with a traffic accident case of 1039 cases.[15]

Based on the level of education found distribution of patients who refusal orthopedic treatment that the most from high school education as much as 42.1%. It can be argued that patients who reject the action of orthopedics are largely unaware of the importance of recommended action or treatment. When viewed in terms of tribes, half (50%) of patients who reject the action Batak ethnic.

From all the results of the study, patients who rejected the act were essential to know the health behaviors of a person or group, where there are three important pillars, namely health knowledge, attitudes toward health, and health practices. In health behavior according to Lawrence Green theory, that behavior factor is very important in a person in determining the action / treatment that will be given to him.[3,4]

If according to Green, there are 3 important factors that is the first factor that is predisposing factor, where the patient who seek treatment at emergency department of high school education background and still very thick with cultural tradition and belief to alternative medicine (bone setter). The type of action that the patient or the patient's family rejects most is the implantation action due to fracture. In general, refused or fear of surgery because of the installation of foreign objects (implant) into the body.[3,4]

Based on the fracture relationship to the outside world, the rejection rate of most acts in the closed fracture group (57.46%), on the basis of health behaviors that a closed fracture would be better if treated in a closed manner tending to seek alternative treatment (bone setter).

The second factor is the enabling factor, in which case the enabling factor in question is the hospital and payment status. The treatment sites in this study are type A hospitals, so the services to be delivered are in accordance with applicable standards, so the patient is unlikely to reject the action due to lack of facilities from the hospital. RSUP H. Adam Malik also serve insurance services both private and government.[3,4]

WHO divides traffic accidents on the basis of State revenues can be divided into low income (45%), medium (29%), and high (18%).[8] From the research data found 40.35% of patients who rejected the action with state of payment is government insurance and when connected with the reasons of rejection of action to the status of patient payments, found 43.55% of patients by refusing the act with the reason to want alternative treatment (bone setter).

The third factor is the reinforcement factor, the latter factor is very important, because in this condition where the patient has understood the good health behavior, but doesn't do it, many things can influence it like advice from family or respected people in their neighborhood.

From the discussion of research results of patients who reject the orthopedic action, it is necessary to handle overall from the level of primary care to the highest level of service by promoting extension activities with the principle of promotive, prevention, curative, and rehabilitative.[12]The existence of the approach to the patient, the expected knowledge and attitude can be balanced with health seeking behavior of each patient.

Conclusion

The results of this study can be concluded that the largest accidents are at productive age with male gender. While the mode of payment and the level of education of the patient does not affect the reason for the

refusal treatment of the patient, this is in accordance with the theory that the change or improvement of public knowledge about health is not matched by the improvement or change of behavior.

Conflict of Interest

Mode of payment and the level of education of the patient does not affect the reason for the refusal treatment of the patient.

References

1. Notoatmodjo,S. Promosi Kesehatan: Promosi Kesehatandalam Kesehatan Masyarakat. Jakarta: RinerkaCipta; 2010. P.2-9.
2. Notoatmodjo, S. Promosi Kesehatan: Konsep Promosi Kesehatan. Jakarta: Rinerka Cipta; 2010. P.23.
3. Notoatmodjo, S. Promosi Kesehatan: Konsep Prilaku Kesehatan. Jakarta: Rinerka Cipta; 2010. P.66.
4. Notoatmodjo, S. Promosi Kesehatan: Aspek Sosial Budaya yang Berhubungandengan Perilaku Kesehatan. Jakarta: Rinerka Cipta; 2010. P.23.
5. Foster,G.M. and Anderson,B.G. Antropologi Kesehatan: Sistem Medis. Jakarta: UI-Press; 1986. P.46.
6. Zhao, L. et al. Emergency Department Visits Associated with Motor Vehicle Accidents, Centers for Disease Control and Prevention's Web-based Injury Statistics Query and Reporting System. 2006. [Accessed: 16 July 2016]; Available at: https://www.hcup-us.ahrq.gov/reports/statbriefs/sb84.pdf
7. Pan, R.H. et. al. Epidemiology of Orthopedic Fractures and Other Injuries among Inpatients Admitted due to Traffic Accidents: A 10-Year Nationwide Survey in Taiwan. The Scientific World Journal. 2014 [Accessed: 20 Juli 2016];Vol 2014-Article ID 637872, P7. Available at: https://www.hindawi.com/journals/tswj/2014/637872/
8. Samona, J and Colen, R. Orthopedic Considerations in the Pedestrian versus Motor Vehicle Accident Polytrauma Patient. Case Reports in Orthopedics.2012 [Accessed: 20 Juli 2016]; Vol 2012, Article ID 149847, P6. Available at: https://www.hindawi.com/journals/crior/2012/149847/
9. WHO. Global Health Promotion Conferences have established the concepts, principles, and action areas, and located health promotion within the wider context of globalization. WHO; 2016. [Accessed: 20 July 2016]. Available at: http://www.who.int/healthpromotion/conferences/en/
10. Lubis, C.P. SejarahIlmuKedokteran [pdf]. USU e-Repository; 2008. [Accessed 21Juni 2016] Available at: http://repository.usu.ac.id/bitstream/handle/123456789/16045/08E00009.pdf?sequence=1
11. Indonesia. Departemen Kesehatan Republik Indonesia. Intergrasi Pengobatan Tradisionaldalam Sistem Kesehatan Nasional. Jakarta: Depkes; 2011. [Accessed: 24 Juli 2016]. Available at: http://www.depkes.go.id/article/view/1706/integrasi-pengobatan-tradisional-dalam-sistem-kesehatan-nasional.html#sthash.JCFtWpqS.dpuf
12. Indonesia. Menteri Kesehatan Republik Indonesia. Persetujuan Tindakan Kedokteran. Jakarta: MKRI; 2008. [Accessed: 24 Juli 2016]. Available at : http://pdk3mi.org/file/download/KMK%20No.%20290%20ttg%20Persetujuan%20Tindakan%20Kedokteran.pdf.
13. Notoadmodjo, S. Metodologi Penelitian Kesehatan. Jakarta: Rineka Cipta; 2005.P.39
14. Ramachandran, M. Basic Orthopaedic Sciences: Statistics. United Kingdom: CRC Press; 2006. P.1-14.
15. SIRS. Sistem Informasi Rumah Sakit di RSUP H. Adam Malik. Medan: Depkes; 2016

*****