

## Quality Administration when all is said in Done Surgery: A Review

Ankita Veerbhan\*

Meerut Institute of Engineering and Technology, Meerut, Uttar Pradesh, India

### Review Article

Received: 23/08/2016

Revised: 30/08/2016

Accepted: 06/09/2016

#### \*For Correspondence

Veerbhan A, Meerut Institute of Engineering and Technology, Meerut, Uttar Pradesh, India

**Keywords:** Quality administration, Quality management, Quality control, Surgery

#### E-mail:

ankita.veerbhan08@gmail.com

### ABSTRACT

**Introduction:** Absolute quality administration is a precise methodology concentrated on fulfilling clients' desires, recognizing issues, diagnostically tackling patient's issues and to execute consistent quality change.

**Method:** Precise audit of the English dialect medicinal writing, utilizing electronic hunt of the PubMed, Pro Quest and Science Direct databases with various blends of the watchwords: all out quality administration, human services, injury, and negligibly intrusive surgery.

**Results:** The evaluation of results in surgery speaks to a part of the quality certification of patients' consideration. As a rule, the specialists have their own particular arrangement of mental variables that can foresee great and terrible results Surveys of confusion rates and result are a poor substitute for quality control. For the reported difficulties it is difficult to know which confusions are genuine (intrinsic to surgery and unavoidable) and which are an outcome of a slip-up or a blunder in judgment. For polytrauma patients, ideal result requires an underlying administration satisfying an exclusive requirement of value confirmation. An essential is the accessibility of satisfactory assets at all times, including work force, specialized gear, and extraordinary composed crisis room.

**Conclusion:** Romanian healing facilities require a more forceful execution of aggregate quality administration arrangement, keeping in mind the end goal to keep up their aggressiveness on these days European Union focused business sector.

### INTRODUCTION

**Quality Management:** Quality management is the act of overseeing all activities and tasks needed to maintain a desired level of excellence. This includes the determination of a quality policy, creating and implementing quality planning and assurance, and quality control and quality improvement. It is also referred to as total quality management (TQM)<sup>[1]</sup>.

**Total quality Management:** A holistic approach to long-term success that views continuous improvement in all aspects of an organization as a process and not as a short-term goal. It aims to radically transform the organization through progressive changes in the attitudes, practices, structures, and systems<sup>[2]</sup>.

Absolute quality administration, an idea created by Edwards Deming, has been utilized effectively as a part of the social insurance frameworks of numerous nations, and in numerous associations for enhancing the nature of procedures. The framework is based upon the investigative technique and gives the capacity to understand longstanding, recalibrating issues. The most generally utilized definition is "Quality is meeting or surpassing client expectations"<sup>[3]</sup>. In the therapeutic writing, the restorative groups normally met imperviousness to behavioral changes and an absence of full backing from upper level chairmen, yet a large portion of them have been very fruitful in enhancing the quality administration process<sup>[4]</sup>. A snapshot in the nature of the social insurance in the United States is showing<sup>[5]</sup>:

- (i) In 2003, US Healthcare uses totaled \$1.679 trillion.
- (ii) In 2003, the United States spent more on medicinal services than did whatever other nation on the planet, however out of 30 OECD nations, the US positioned 22nd in male future and 23rd in female future and 26th in baby death rate.
- (iii) 55% are disappointed with the nature of medicinal services in the US.

# **Research and Reviews Journal of Pharmaceutical Quality Assurance**

(iv) Adult Americans got 54.9% of suggested preventive consideration, intense consideration and interminable consideration.

(v) 44.000-98.000 passing/year in the US are preventable restorative blunders, speaking to the eighth driving reason for death, bringing about a larger number of passing than engine vehicle mishaps, bosom tumor or AIDS. The evaluated therapeutic expense for these medicinal mistakes is \$37.6-\$50 billion yearly.

Regardless of the possibility that most normal therapeutic blunders are thought to be shameful measurement of solution or surgical mistakes (i.e. Inaccurate site removal), there are numerous different sorts, including: symptomatic blunders including misdiagnoses prompting a wrong decision of treatment, inability to utilize a showed analytic test, inability to legitimately follow up on strange test outcomes, gear disappointments (i.e. a defibrillator without batteries, incidental dosing of pharmaceutical because of intravenous pumps with ousted valves), contaminations (i.e. nosocomial and surgical site contaminations), demise because of disconnection or utilization of limitations. One of the primary techniques, as per the Institute of Medicine, used to keep these blunders is the utilization of therapeutic informatics<sup>[6]</sup>.

The examination proof demonstrated that 4% of clinic patients endure an avoidable harm, 7% experience a drug blunder, and 45% experience some therapeutic fumble. 8 % of sedative mistakes were observed to be human blunder and 92% because of framework errors<sup>[7]</sup>.

These days, progresses in restorative exploration happen quickly, frequently overpassing our capacity to make an interpretation of new data into the clinical arena<sup>[8]</sup>. There is an awesome need to apply new learning productively and precisely to clinical practice. This is best done via deliberately controlled clinical trials<sup>[9]</sup>.

The evaluation of results in surgery speaks to a part of the quality confirmation of patients' consideration. As a rule, the specialists have their own arrangement of mental variables that can foresee great and awful outcomes.

It is extremely hard to quantify the nature of consideration in surgical work on, realizing that mortality; horribleness and length of in-healing center stay are a long way from immaculate in assessing the standard of value. Classically, the result in surgery has been depicted by the "five D": passing, handicap, disappointment, malady and discomfort<sup>[10]</sup>.

There are two numerical result indicator models: (i) In Europe-POSSUM (Physiological and Operative Severity Score for the Enumeration of Mortality and Morbidity). (ii) In United States-NSQIP (National Surgical Improvement Program).

For assessment of human services execution was utilized many measures, which can be gathered in three fundamental categories<sup>[11]</sup>:

(i) Structure measures: information portraying hierarchical offices, environment, hardware, approaches, and strategies.

(ii) Process measures: information depicting the conveyance of medicinal services administrations.

(iii) Outcome measures: information depicting the consequences of human services administrations.

For instance, if the supervisor of the healing facility needs to measure every normal for the anti-microbial prophylaxis in the injury office, he could ask the accompanying inquiries:

(i) Structure: Are there an adequate number of restorative staff to cover 24/24 hours therapeutic help with the injury division?

(ii) Process: Do the therapeutic work force an archived clinical exam of the traumatic injury prompt after patient landing?

(iii) Outcome: What is rate of contaminated injury requiring unique consideration because of neighborhood disease? As of late the social insurance frameworks all through the world have changed drastically, in Europe under the system of European Foundation for Quality Management Excellence Model, a structure established in 1988, propelling its Model in 1991<sup>[12]</sup>: (i) The individual wanting a medicinal administration is no more seen as a patient yet rather as client or customer. (ii) Healthcare suppliers work increasingly in a free market framework. (iii) For the monetary perspectives, the covering spending plans of the clinics have moved to planned arrangements. (iv) The compensation has changed in an installment for every case.

The nature of consideration and administrations accommodated patients have turned into a first need in different nations, for example, Israel, Scotland and Spain and in addition a lawful commitment in Germany<sup>[13]</sup>.

# **Research and Reviews Journal of Pharmaceutical Quality Assurance**

Numerous healing facilities overall actualized the ISO 9001 quality administration framework. The eight standards of ISO 9001 supporting its necessities are: client center, authority, inclusion of individuals, procedure approach, framework way to deal with administration, persistent change, true way to deal with basic leadership, commonly useful supplier relationships. As indicated by the ISO standard you should<sup>[14]</sup>:

- (i) Document what you do ("Say what you do")
- (ii) Establish a procedure for the administration
- (iii) Perform to your documentation ("Do what you say") (iv) Provide the administration taking into account the procedure.
- (v) Record the consequences of your work ("Record data") (vi) Appropriately keep up all recorded data .
- (vii) Audit the documentation for adequacy ("Audit viability")
- (viii) Audit utilizing the procedure approach

In 2000, examining the requirement for presentation of value administration into Greek social insurance, Theodorakioglou et al. found the accompanying suggestions as essential<sup>[15]</sup>:

- (i) An unmistakable, point by point and particular wellbeing arrangement at a focal level.
- (ii) Changing of the authoritative system for keeping up the healing facilities open character yet an administrative and regulatory adaptability, and an effective administration of HR.
- (iii) Introduction of equipped chiefs who will effectively add to a cutting edge and concentrated unitary arrangement, which will plainly shortfall the current money related and financial circumstance of doctor's facilities.
- (iv) Evaluation of the genuine last item, and the designation of accessible assets to healing centers, on the premise of their viability, proficiency and the genuine populace needs they intend to cover.
- (v) Extended utilization of very much planned data frameworks.
- (vi) The inspiration of representatives so that their profitability will be expanded and the level of administrations gave by them will be progressed.

## ***Quality Management in Trauma Care***

Ideal result in the treatment of polytrauma patients requires an underlying administration satisfying an elevated expectation of value assurance<sup>[16]</sup>. An essential is the accessibility of satisfactory assets at all times, including work force, specialized gear, and uncommon planned crisis room. Symptomatic measures and treatment for fast administration of the aviation route, breathing, course (counting here enormous transfusion and surgical hemostasis) have need<sup>[17]</sup>. For support and change in the nature of consideration is fundamental an institutionalized documentation, general investigation, and input from an inward quality administration process and interest in an outer review such a National Registry<sup>[18,19]</sup>.

The vital component of the quality administration framework actualized at the division of injury surgery of the University of Essen were the foundation of (an) a sufficient convention for documentation, (b) 20 criteria for the appraisal of treatment quality, (c) normal factual investigation of treatment quality and (d) a quality circle involving all restorative fortes for information discussion. The study uncovered that the nature of the early treatment of seriously harmed patients was altogether enhanced by the execution of a multidisciplinary quality administration framework: (a) noteworthy lessening of time required for fundamental radiological and sonographic registration (from  $24\pm12$  min to  $14\pm8$  min), for cranial processed tomography in extreme traumatic mind damage (from  $45\pm22$  min to  $28\pm8$  min), (b) the rate of deferred conclusion stayed low ( 4% to 5%), (c) time investment funds in transfusions (from  $35\pm20$  min to  $20\pm4$  min) and crisis operations (from  $67\pm20$  min to  $48\pm4$  min) in hemorrhagic stun, and craniotomies in serious traumatic cerebrum wounds (from 77依41 min to  $54\pm19$  min), (d) diminish in general mortality (from 17% to 10%)<sup>[20]</sup>.

Santana et al. portrayed the quality markers that injury focuses use for quality estimation and execution change<sup>[21]</sup>. They studied 330 injury focuses from United States, Canada, Australia and New Zealand, acquiring 10 587 quality markers from 262 focuses, of which 1 102 were one of a kind pointers. These quality markers evaluated the wellbeing (49%), viability (32%), effectiveness (27%) and convenience (22%) of doctor's facility procedure (64%) and results (24%).

Because of developing confirmation that for some medicines exist a relationship between the supplier volume and patient results, Stelfox et al. assessed whether a relationship exists between injury focus volume and the way of value change programs. Hello reviewed 154 confirmed grown-up injury focuses from United States, Canada, Australia and New Zealand (76% reaction rate). Low-volume focuses utilized increasingly the quality markers for assessing triage and patient stream (18% versus 13 %, P<0.001), adequacy of consideration (33% versus 30%, P = 0.016), and proficiency of consideration (29% versus 23%, P<0.001). High-volume focuses will

# **Research and Reviews Journal of Pharmaceutical Quality Assurance**

probably utilize quality pointers for assessing restorative blunders and antagonistic occasions (30 % versus 36%, P<0.001) and the utilization of rules/conventions ( 2% versus 3% , P = 0.001)<sup>[22]</sup>. The same gathering of specialists thought about the quality change projects of injury focuses from 4 high-pay nations: United States (263 focuses), Canada (46 focuses), Australia (18 focuses) and New Zealand (3 focuses). Trauma focuses from United States reported more than those from Canada and Australasia the measuring quality markers (100% versus 94% versus 93%, P = 0.008), utilized report cards (53% versus 33% versus 31%, P = 0.033) and benchmarking (81% versus 61% versus 69%, P = 0.019). The focuses from all nations utilized principally the healing facility procedure and result measures for assessing if the consideration was sheltered (98% versus 97% versus 75%, P = 0.008), powerful (97% versus 97% versus 92% P = 0.399), opportune (88% versus 100% versus 92%, P = 0.055) and proficient (95% versus 100% versus 83%, P = 0.082)<sup>[23]</sup>.

In a precise survey, Stelfox et al. found the accompanying hopeful quality pointers for assessing injury care [24]: (i) Peer audit of injury passings to assess quality if mind and figure out if the demise was conceivably preventable. (ii) Hospital mortality. (iii) Complications amid healing center sit tight. (v) Patient treated at the scene longer than "X" minutes (range, 10-30 min). (vi) Glasgow Coma Scale score<X (range 9-14) and no CT output of the head inside X h (range 1 - 4 hours) of landing. (vii) Time from patient healing facility entry to crisis surgical treatment (range<30 minutes up to<4 hours) . (viii) Unscheduled surgical treatment inside X h (range 24-48 h) of introductory technique. (ix) Missed wounds: Injuries analyzed/recorderd X h, (range 24 h-release), after confirmation. (x) Glasgow Coma Scale score<X (range 8-10) and aviation route not secured inside X (range,<5 minutes-quiet leave the crisis office) . (xi) Length of Emergency Department stay>X h (range, 2-8 h).

Willis et al. examined the quality pointers for injury care, investigating information from the Victorian State Trauma Registry, including 5 104 cases. Three quality markers were connected with expanded mortality: (i) stomach surgery>24 h after landing, (ii) obtuse compound tibial break treatment> 8 h after entry, (iii) non-obsession of femoral diaphyseal crack. Another three quality markers were connected with expanded lengths of stay: (i) cranial or (ii) stomach surgery>24 hours after entry, (iii) patients growing profound vein thrombosis, pneumonic emboli or decubitus ulcers<sup>[25]</sup>.

A study looking at the quality control for injury administration between a level I injury focus from Italy and from Romania, found a noteworthy issue of the enlistment and the complete stockpiling if information concerning injury care. This review from 2008 demonstrated great results appreciation to American College of Surgeons reviews, yet with critical holes in early treatment of fractures<sup>[26]</sup>.

Specialists: their inclusion is fundamental, and unique preparing for them is required, which interfaces quality strategies with connected therapeutic exploration. Organized team working: guarantee quality tasks taking a shot at complex subjects take after the progressions of an organized group working procedure.

Quality authority: the heads of offices ought to lead the quality. How to create leaders of offices' capability and inspiration? Advancement: don't depend on a preparation system to give the work force and association improvement required. For chiefs, even the best quality instruction alone is not adequate. They should be presented to an assortment of encounters and to be aided in various ways in the event that they are to apply quality thoughts in groups and in ordinary work, and to show others how it's done. Information is not know-how.

Resistance and restriction: the need to work with resistance through comprehension and discourse, not battle resistance; this methodology conveys quality standards.

Facilitators: prepare more group facilitators than you might suspect you require; you will require progressively and you will lose numerous.

Venture administration: select quality activities which are deliberately critical, and oversee them for results. Get the right harmony between base up activities and midway started ventures.

All administrations: don't disregard those administrations which are doing little to address quality issues; the opposite quality law acts to open patients to superfluous dangers.

## ***Quality Management in Minimally Invasive Surgery***

Studies of intricacy rates and result are a poor substitute for quality control. For the reported difficulties it is difficult to know which confusions are genuine (innate to surgery and unavoidable) and which are an outcome of an

# **Research and Reviews Journal of Pharmaceutical Quality Assurance**

oversight or a mistake in judgment. Deliberate video recording of the whole surgical techniques has numerous favorable circumstances for the specialist and is by all accounts a decent apparatus for enhancing nature of the surgical act [27]. Initially, the video recording expands the exactness and accuracy of surgery, an outcome of the human variable, where readiness is expanded and the velocity backed off if the specialist realizes that each slip-up will be recoded. At whatever point confusion happens, evaluating the video recording can be useful for an early conclusion and early intervention. If there should be an occurrence of medicolegal issues, the specialist may demonstrate an exact, careful and exact surgery<sup>[27,28]</sup>.

Kennedy et al. assessed the database of the American College of Surgeon's National Surgical Quality Improvement Program. They gathered the postoperative complexities for patients with laparoscopic or open colonic surgery. They observed that laparoscopy diminished generally and individual complexities, length of stay and hazard for postoperative confusions in elderly. The difficulty rate diminished autonomously of the likelihood of horribleness statistic<sup>[29]</sup>.

Breaking down the huge elements that cause delays in surgical operations in a healing center and figures that influence efficiency surgery facilities, Savsar et al. found that postponements are unavoidable, yet they are related more with: (i) going by restorative staff than in-house specialists, (ii) missing labor/and radiology tests, (iii) missing pre-anesthesia data, (v) missing educated consent<sup>[30]</sup>. The creators proposed the accompanying measures to minimize surgery delays: (i) A PC programming so that educated assent, pre-anesthesia and lab/radiology strategies are recorded to ensure patients with missing data are not planned for surgical methodology [31-34] (ii) An approach for upholding techniques for finishing preparatory prerequisites for surgery and to guarantee patients are in healing sufficiently center time to finish all pre-surgery tests and methods. (iii) A surgery plan for every specialist ought to be set up alongside a connected, checking system with the goal that checks can be made on missing data before surgery. (v) An uncommon checking component for operations doled out to going by specialists [35-50].

## **CONCLUSION**

Romanian healing centers require a more forceful usage of aggregate quality administration strategy, with a specific end goal to keep up their intensity on these days European Union focused business sector. The aggregate quality administration in human services substantial backing client (the patient) fulfillment ought to surpass the desires and equivalent a mix of restorative administrations (analyze, meds, surgery) together with wellbeing, security, a proper state of mind of the nursing staff, right planning regarding arrangement, delay, administration, medicinal treatment and surgery.

## **REFERENCES**

1. <http://www.investopedia.com/terms/q/quality-management.asp>
2. <http://www.businessdictionary.com/definition/total-quality-management-TQM.html>
3. Evans J and Lindsay W. Managing for quality and performance excellence. 8th ed. USA: South-Western Cengage Learning; 2008.
4. Townes C, et al. Implementing total quality management in an academic surgery setting: lessons learned. Swiss Surg. 1995;15:23.
5. Kelly D. Applying quality management in healthcare: a systems approach. 2nd ed. Chicago, Illinois: Health Administrations Press; 2007.
6. Le Duff F, Daniel S, Kamendjé B, Le Beux P, Duvalier R. Monitoring incident report in the healthcare process to improve quality in hospitals. International Journal of Medical Informatics. 2005;74(2-4):111-7.
7. Ovreteit J. Total quality management in European healthcare. International Journal of Health Care Quality Assurance. 2000;13:74-9.
8. Beuran M, et al. Natural orifice transluminal endoscopic surgery (NOTES) second-look peritoneoscopy for staging of limited peritoneal carcinomatosis. Medical hypotheses. 2013;80:745-9.
9. Holmes EC. General principles of surgery quality control. Chest. 1994;106(6 Suppl):334S-6S.
10. Shuhaiher JH. Quality measurement of outcome in general surgery revisited: commentary and proposal. Arch Surg. 2002;137:52-4.
11. Spath P. Introduction to healthcare quality management. Chicago, Illinois: Health Administration Press; 2009.

# **Research and Reviews Journal of Pharmaceutical Quality Assurance**

12. Johannes M, et al. Quality management in German health care-the EFQM Excellence Model. *International Journal of Health Care Quality Assurance.* 2000;13:254-8.
13. Cauchick Miguel PA. Quality management through a national quality award framework. *The TQM Magazine.* 2006;18:626-37.
14. Levett JM. Implementing an ISO 9001 Quality Management System in a Multispecialty Clinic. *Physician Executive.* 2005;31:46-51.
15. Theodorakioglou YD and Tsiotras GD. The need for the introduction of quality management into Greek health care. *Total Quality Management.* 2000;11:1153-65.
16. Beuran M, et al. [Mechanism of injury-trauma kinetics. What happen? How?]. *Chirurgia.* 2012;107:7-14.
17. Beuran M, et al. Prehospital trauma care: a clinical review. *Chirurgia.* 2012;107:564-70.
18. Nast-Kolb D, et al. Trauma care management. *Chirurg.* 2007;78:885-93.
19. Beuran M, et al. Trauma registry – a necessity of modern clinical practice. *Chirurgia.* 2014;109:157-60.
20. Ruchholtz S, et al. Interdisciplinary quality management in the treatment of severely injured patients. Validation of a QM system for the diagnostic and therapeutic process in early clinical management. *Unfallchirurg.* 2001;104:927-37.
21. Santana MJ and Stelfox HT. Quality indicators used by trauma centers for performance measurement. *J Trauma Acute Care Surg.* 2012;72:1298-1302.
22. Stelfox HT, et al. Trauma center volume and quality improvement programs. *J Trauma Acute Care Surg.* 2012;72:962-967.
23. Stelfox HT, et al. Trauma center quality improvement programs in the United States, Canada, and Australasia. *Ann Surg.* 2012;256:163-169.
24. Stelfox H, et al. Quality indicators for evaluating trauma care: A scoping review. *Archives of Surgery.* 2010;145:286-295.
25. Willis CD, et al. Interpreting process indicators in trauma care: Construct validity versus confounding by indication. *International Journal for Quality in Health Care.* 2008;20:331-8.
26. Calderale S, et al. Comparison of quality control for trauma management between Western and Eastern European trauma center. *World Journal of Emergency Surgery.* 2008;3:32.
27. Koninckx P. Videoregistration of surgery should be used as a quality control. *Journal of Minimally Invasive Gynecology.* 2008;15:248-53.
28. Beuran M, et al. Laparoscopic approach in gallbladder agenesis—an intraoperative surprise. *Chirurgia.* 2010;105:531
29. Kennedy GD, et al. Laparoscopy decreases postoperative complication rates after abdominal colectomy: results from the national surgical quality improvement program. *Ann Surg.* 2009;249:596-601.
30. Savsar M and Al-Ajmi MM. A quality control application in healthcare management using experimental design criteria. *International Journal of Health Care Quality Assurance.* 2012;25:53-63.
31. Bila A and Gramatiuk S. To Compare the Mitochondrial Complex between Metastasis Breast Cancer and Patients with Breast Cancer and Hepatitis C Virus. *J Women's Health Care.* 2016;5:315.
32. Ramming J and Ramming M. Radiology and Radiation: How and Why Should we Reduce Exposure Rates in the CT Imaging of the Nose and Paranasal Sinuses?. *Otolaryngol (Sunnyvale).* 2016; 6-232.
33. Alvarez Corredor FA. Continuous Thoracic Epidural Anesthesia for Mammoplasty Reduction. *J Anesth Clin Res.* 2016; 7-646.
34. Alvarez Corredor FA. Continuous Thoracic Epidural Anesthesia for Mammoplasty Reduction. *J Anesth Clin Res.* 2016;7-646.
35. Ali Z, et al. Clinical Image on Aspects in Different Gynecological Surgery. *Gynecol Obstet (Sunnyvale).* 2016; 6-101.
36. Liu F, et al. A Meta-analysis Comparing Lateral Decubitus with Supine Position for Surgery for Intertrochanteric Fractures. *J Arthritis.* 2016; 5-211.
37. Ochi S, et al. Infant Motor Development Recovery after Surgery of Post Traumatic Epilepsy (PTE) - Meaningful Change of Fractional Anisotropy (FA) of MRI Diffusion Tensor Imaging (DTI) in a Case of Growing Skull Fracture. *J Neurol Disord.* 2016;4-284.
38. Dias JC, et al. Inflammatory Polyneuropathy after Bariatric Surgery: Report of Two Cases. *J Neurol Disord.* 2016;4-278.

# **Research and Reviews Journal of Pharmaceutical Quality Assurance**

39. Lavaris A, et al. Vision Loss after Endoscopic Sinus Surgery: A First Case Report Assessed by OCT and VEP. *J Clin Case Rep.* 2016; 6-806.
40. Cavalcanti TM, et al. Effect of Low-Level Laser Therapy on Wounds in Intra-Oral Surgery. *Oral health case Rep.* 2016; 2-120.
41. Dai D, et al. EPCs-Collagen Sponge Complex Promotes Neovascularization of Chronic Cerebral Ischemia following Multiple Burr Hole (MBH) Surgery. *J Neurol Disord.* 2016; 4-274.
42. Brandalise MH, et al. Depressive and Anxiety Symptoms Exert Negative Impact on Resilience to Stressful Events in Patients with Refractory Temporal Lobe Epilepsy with Late Seizure Recurrence after Surgery. *J Psychol Psychother.* 2016; 6-269.
43. Kitamura S, et al. Effect of Glucose Administration on the Metabolism during Surgery. *J Diabetes Metab.* 2016; 7-679.
44. Mohamed AA, et al. Comparison of Combined Intrathecal Morphine and Sonar-guided Single-shot Femoral Nerve Block vs. Either Technique Alone for Postoperative Analgesia in Patients Undergoing Total Knee Replacement Surgery. *J Anesth Clin Res.* 2016; 7-637.
45. Zulli C, et al. Retroperitoneal Schwannoma: When EUS-Guided FNA can Avoid Surgery. *J Gastrointest Dig Syst.* 2016; 6-443.
46. Omar IAN. Assessment of the Corneal Aberration and Elevation Changes after Pterygium Surgery. *J Clin Exp Ophthalmol.* 2016; 7-561.
47. Aricigil M, et al. Sudden Sensorineural Hearing Loss After Total Thyroidectomy Surgery Under General Anesthesia. *Otolaryngol (Sunnyvale).* 2016; 6-245.
48. Agarwal SS, et al. Single Step Simultaneous Bijaw Surgery and Alveolar Bone Grafting in an Adult with Cleft Lip and Palate: A Case Report. *Cosmetol & Oro Facial Surg.* 2016; 2-107.
49. Ramieri A, et al. Non-Posterior Subtraction Osteotomy Surgery to Restore Lumbar Lordosis in the Hidden Sagittal Imbalance of the Adult Degenerative Spine. *J Spine.* 2016; 5-315.
50. Yanase Y, et al. Comparison of Long-Term Outcome after Endovascular Therapy versus Bypass Surgery for Superficial Femoral Artery Disease. *J Vasc Med Surg.* 2016; 4: 270.