



Investigating Level and Reasons of Insurance Deductions of Hospitalization Bills in AL Zahra Academic and Medical Center of Isfahan in 2017

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ABSTRACT

Background: Insurances are the most important financial sources of hospitals but sometimes insurance companies deduct amounts as deductions from the sum of requested amounts after investigating financial documents sent to hospitals monthly. The current study aims at determining the level and reasons for insurance bill deductions in AL Zahra Hospital in Isfahan.

Methods: This applied study is descriptive-cross sectional in method and has been conducted retrospectively. The statistical population of this study contained file information of hospitalized patients who have been referred to Isfahan AL Zahra Hospital in 2016. The sample size determined by Cochran Formula and 400 files has been investigated. Random sampling employed. The information has been extracted from patients through a checklist whose reliability and validity has been confirmed by insurance experts and management specialists. Qualitative methods of interview used to identify the most important reasons for increasing the deduction sums and statistical indices and descriptive scales (frequency, percent etc) have been analyzed.

Results: The most and the least percent of insurance deductions are related to Armed Forces Insurance (36.8 %) and Social Security Insurance Organization (3.64 %) respectively. Also, the most deductions of hospitalized files were related to visiting deductions of hospitalized patients' doctor and drug and consumables deduction, other services, surgeon and anesthetist commission, experiments and pathology, radiology and sonography are in next rates and the least deductions is related to doctors 2k visit cost, hoteling, and surgery room.

Conclusion: According to high percent of insurance deductions and investigation of its reasons, it has been revealed that hospitalized files related to visit by resident year 1 and 2 and absence of resident physician in center and the academic status of hospital that managers have to clarify this issue and use residents year 3 and 4, attending and resident physicians to reduce difference between hospitals and insurance companies and consider documentation as one of main elements of their agenda. So training all individuals who are influential on patients' bills such as doctors and nurses is essential.

Key words: Hospital, Hospitalized bill, Insurance deductions.

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Introduction

Better health is fundamentally the philosophy of a healthy system existence and undoubtedly it is considered as its main and meaningful goal (1). Nowadays health protection organizations are faced with important challenges due to competition for services representation in cost-effectiveness ways which has created economic, political and legal motivations in health protection providers to control cost and maintain quality at the same time (2, 3) hospitals has allocated a major share of allocated sources and credits of health and treatment section, to themselves (4-6).

In economically developed countries more than 80 % of Gross Domestic Product (GDP) spent on sanitation and health of society in which 50 % to 80 % of health resources of the governmental section in developing countries are being spent in hospitals (7-11). According to public insurance law, one of the hospitals' earning resources is a representation and selling services to the insured covered by insurance companies. Insurance companies deduct amounts as deductions from the sum of requested amounts after investigating financial documents sent to hospitals monthly (12-14). Deduction means the amount of difference between what has to be received in lieu of services representation (based on approved tariffs) and what has been practically received (15). Such deductions are possible to be investigated from two points of view: from viewpoint of hospital, deducted sums are a part of hospital's earning which have not been paid by insurance company and from viewpoint of insurance companies, bills with more deductions need more time and work to be investigated and it has two consequences, first consequence: the more time spent to investigate hospitals bills and sent documents, the more time needed to receive hospital's demands from insurance companies which is a non-economic and illogical problem and second consequence: more expertise makes more investigation expense for insurance company (16-18).

Due to the lack of correct principles in information collecting, cost calculations and not

sending hospitalized patients' bills on time, many demands of represented services have been remained uncalculated and unpaid. Also due to not regarding insurance rules and insertion of extra and unnecessary services by hospitals that are not included in insurance companies' commitment, insurance companies apply deductions in refunding the cost of contractor hospital bills. This issue increases contractor hospitals' dissatisfaction and makes financial resources, spent costs and represented services unachieved and encounters hospitals with financial chaos and its derivative pressures. On the other hand, increasing the number of deductions makes proper services representation face serious problems and also impose increasing financial load to the patient through increasing out of pocket costs (19, 20).

Results of studies are demonstrative that according to the increasing process of medical costs and limitations of financial resources in Iran, controlling hospital costs is an inevitable problem. Based on studies, erased dates, out of date prescriptions and absence of prescription are among the most important reasons for insurance deductions (19-22). According to the above-mentioned items, during present status in which many hospitals are under financial distress, hospital high deductions is not acceptable by managers since this problem makes hospitals management disordered, quality services reduced and finally patients dissatisfied. So it is possible to enhance hospitals' efficiency and ultimately medical protection with a better and more precise perception of the prevalence level and reasons of deductions and also to prevent wasting hospitals' financial resources which considered as the main support in-service representation and hospital survival (23). Thus the purpose of the present study is to investigate level and reasons of insurance deductions of hospitalization bills in AL Zahra academic and medical center of Isfahan city to create a basis for decision making of managers along with controlling and reducing insurance deductions.



Materials and Methods

This applied study is a mixed method and has been conducted retrospectively to investigate the level and reasons of insurance deductions of hospitalization bills in AL Zahra academic and medical center of Isfahan in 2016. This center with 900 confirmed beds and 750 active beds is considered as the biggest and the only specialty and super specialty center in Isfahan and other neighbor provinces, so hospital earning for the representation of qualified services and also maintaining its own clients is very important. Population size consists of discharged patients' files from AL Zahra medical and academic centers in 2016. Information about medical insurance deductions sum (Social Security Insurance Organization, Medical Services Insurance, Armed Forces Insurance, and Imam Khomeini Aid Committee Insurance) with respect to the type of service included in deductions, have been investigated. 400 files out of 70,000 hospitalized files have been selected through simple random sampling among files of every 12 months of a year and sample size determined by Cochran Formula then 170 Social Security Insurance Organization files, 150 Medical Services Insurance files, 50 Armed Forces Insurance files and 30 Imam Khomeini Aid Committee Insurance files have been studied. After investigation of deductions amounts through the use of the checklist, reasons for each deduction have been extracted during an interview with discharge and earning experts of the related hospital and the most important factors based on their importance from experts' viewpoints have been regarded.

Files in this study are ones that in lieu of represented services for them, insurance's share and organization's share have been separately calculated in the bill existing in the file which patient's share has been paid to hospital during paying off and insurance's share, as well as related prescriptions, have been sent to insurance organization. The employed instrument was a checklist based on research specific goals in

accordance with previous studies and through the use of experts' opinions. The used checklist contains deductions type items, sum, and its reason. Checklist validity and reliability have been confirmed by insurance experts and management specialists. At last collected data after being revised through Excel and SPSS have been analyzed. Also to analyze findings, descriptive statistical indices like diagrams, tables, and descriptive comparisons have been used.

This study was conducted with a code of ethics IR.SBMU.REC.1397.083

Results

In the first step, based on findings investigated the sum of bills has been equaled with 40 billion rials (1 dollar in 2016 equals 30,000 rials). Totally on average, 4.45 % of this sum has been deducted by insurances which Armed Forces Insurance with 8.36 % and Social Security Organization Insurance with 3.64 % have the most and the least deductions respectively.

Generally, visit the physician with about 440 million rials has the most amount of deductions. But the surgery room with a sum of fewer than 70 million rials has the least deductions. Deductions of drug and consumables, other services of surgeons, surgeon specialist's and anesthetist's commission, experiments and pathology have been around 200 to 250 million rials that as mentioned earlier have allocated the most amount of deductions after physician's visit deductions. Deductions of full-time physicians and hoteling have been in the next rates with the amount of around 74 million rials.

In the second step, results related to main reasons of deductions in each of hospitalized sections have been determined through interviews with managers and supervisors of financial official units of study center that each of insurance types and representation of operational approaches to reduce deductions sums have been mentioned separately as follows:

**Table 1.** Deductions for inpatient cases in the hospital, 2016 (Rials).

| Types of Deductions | Social Security Organization Insurance | Medical Services Insurance | Armed Forces Insurance | Aid Committee Insurance | Sum |
|---|--|----------------------------|------------------------|-------------------------|-------------|
| Deductions of the hospitalized hoteling | 49,952,447 | 21,003,450 | 1,411,900 | 1,411,900 | 73,779,697 |
| Error in calculation by hospital (10 %) | 4,995,245 | 2,100,345 | 141,190 | 141,190 | 7,377,970 |
| Absence of resident physician in NICU degree 2 (70 %) | 34,966,713 | 14,702,415 | 988,330 | 988,330 | 51,645,788 |
| Direct discharge from CCU, ICU (10 %) | 4,995,245 | 2,100,345 | 141,190 | 141,190 | 7,377,970 |
| Inconsistency between special and general sections (10 %) | 4,995,245 | 2,100,345 | 141,190 | 141,190 | 7,377,970 |
| Deductions of the hospitalized physician visit cost* | 183,236,428 | 166,343,740 | 42,495,920 | 48,304,080 | 440,380,168 |
| Resident visit year 1 and 2 (90 %) | 164,912,785 | 149,709,366 | 38,246,328 | 43,473,672 | 396,342,151 |
| Visit as well as chemotherapy, pulse therapy and endoscopy (5 %) | 9,161,821 | 8,317,187 | 2,124,796 | 2,415,204 | 22,019,008 |
| Visit before surgery (5 %) | 9,161,821 | 8,317,187 | 2,124,796 | 2,415,204 | 22,019,008 |
| Deductions of k2 physicians visit cost** | 29,936,724 | 29,082,640 | 14,627,493 | 1,131,680 | 74,778,537 |
| Lack of full time physician's stamp and signature (80 %) | 23,949,379 | 23,266,112 | 11,701,994 | 905,344 | 59,822,830 |
| Not sending full time physicians' sentence (20 %) | 5,987,345 | 5,816,528 | 2,925,499 | 226,336 | 14,955,707 |
| Deductions of surgeon's, specialist surgeon's and anesthetist's commission | 105,564,754 | 81,802,944 | 40,764,024 | 1,430,120 | 229,561,842 |
| Error in calculation (10 %) | 10,556,475 | 8,180,294 | 4,076,402 | 143,012 | 22,956,184 |
| Lack of surgeon's stamp and signature of paper of surgeon and anesthesia description (50 %) | 52,782,377 | 40,901,472 | 20,382,012 | 715,060 | 114,780,921 |
| Lack of beginning and finishing time in paper of surgery description (5 %) | 5,278,238 | 4,090,147 | 2,038,201 | 71,506 | 22,956,184 |
| Not paying for residents year 1 and 2 (35 %) | 36,947,664 | 28,631,030 | 14,267,408 | 500,542 | 80,346,645 |
| Deductions of surgery room | 31,669,426 | 24,540,883 | 12,229,207 | 429,036 | 68,868,553 |
| Deductions of experiments and pathology | 90,040,874 | 100,421,743 | 21,176,521 | 7,276,516 | 218,915,654 |
| Not paying for more than one sample in prostate sampling (30 %) | 27,012,262 | 30,126,523 | 6,352,956 | 2,182,955 | 65,674,696 |
| Same requests within a day (10 %) | 9,004,087 | 10,042,174 | 2,117,652 | 727,652 | 21,891,565 |
| Inconsistency between file requested samples with HIS (30 %) | 27,012,262 | 30,126,523 | 6,352,956 | 2,182,955 | 65,674,696 |
| Inconsistency between relative value book and insurance organizations circulars (30 %) | 27,012,262 | 30,126,523 | 6,352,956 | 2,182,955 | 65,674,696 |
| Deductions of drug and consumables | 81,277,272 | 144,715,675 | 19,356,179 | 11,518,295 | 256,867,421 |
| Not registering expensive drugs by nurse (20 %) | 16,255,454 | 28,943,135 | 3,871,236 | 1,151,830 | 50,221,655 |



| | | | | | |
|---|----------------|----------------|---------------|---------------|----------------|
| Not updating drug and equipment price in drugstore (40 %) | 32,510,909 | 57,886,270 | 7,742,472 | 5,759,148 | 103,898,798 |
| Not registering expensive equipment on surgery description (10 %) | 8,127,727 | 14,471,568 | 1,935,618 | 575,915 | 25,110,827 |
| Ambiguous circulars (30 %) | 24,383,182 | 43,414,703 | 5,806,854 | 4,031,403 | 77,636,141 |
| Deductions of radiology and sonography costs | 65,210,055 | 59,783,941 | 28,131,036 | 12,002,678 | 165,127,710 |
| Not paying 2k to outsourcing units (60%) | 39,126,033 | 35,870,365 | 16,878,622 | 7,201,607 | 99,076,626 |
| Not reporting (20 %) | 13,042,011 | 11,956,788 | 5,626,207 | 2,400,536 | 33,025,542 |
| Not paying to residents year 1 and 2 (15%) | 9,781,508 | 8,967,591 | 4,219,655 | 1,800,402 | 24,769,157 |
| Inconsistency with request and performed service (5 %) | 3,260,503 | 2,989,197 | 1,406,552 | 600,134 | 8,256,386 |
| Deductions of other costs in the hospitalized bills*** | 137,980,193 | 60,392,070 | 30,191,117 | 13,828,442 | 242,391,822 |
| Not interpreting items like monitoring and ECG (30 %) | 41,394,058 | 18,117,621 | 9,057,335 | 4,148,533 | 72,717,547 |
| Not paying other services by resident year 1 and 2 (20 %) | 27,596,039 | 12,078,414 | 6,038,223 | 2,765,688 | 48,478,364 |
| Error in calculation (10 %) | 13,798,019 | 6,039,207 | 3,019,112 | 1,382,844 | 24,239,182 |
| Inconsistency with relative value book and internal circulars of insurance organizations (15 %) | 20,697,029 | 9,058,811 | 4,528,668 | 2,074,266 | 36,358,773 |
| Not paying some services due to absence of physician in evening and night shifts (25%) | 34,495,048 | 15,098,018 | 7,547,779 | 3,457,111 | 60,597,956 |
| Total deductions | 736,521,037 | 662,968,531 | 243,829,893 | 96,903,711 | 1,740,223,172 |
| Cost of total file | 20,242,593,624 | 13,423,374,256 | 2,916,996,328 | 2,552,121,935 | 39,135,086,143 |
| Percent of deductions | 0.04 | 0.05 | 0.08 | 0.04 | 0.21 |

Discussion

According to insurance rules, often there are conflicts among insurance companies and medical centers during services representation and consequently when paying and receiving insurance demands which impose huge costs to medical centers due to its financial nature. The difference between insurance bills of medical centers and insurance companies is called deductions that occur when there is an inconsistency between requested services with represented one, inconsistency between requested tariff and committed one or inconsistency between requested services and committed one (13). The present study has investigated the insurance bills of the hospitalized in AL Zahra Hospital. Research findings showed that the sum of 4.45 % of hospital costs has not been refunded by insurance companies. Armed Forces Insurance (8.36 %) and Social Security Organization Insurance (3.64 %)

have the most and the least deductions percent respectively. Bagheri et al. also argued that Armed Forces Insurance (6.24 %) has the most deduction percent which is in line with the results of this study.

According to findings, the most deductions related to the hospitalized physician's visit, drug and consumables, other services, surgeon's commission, experiments, pathology, radiology, and sonography respectively and the least deductions related to full-time physician's visit, hoteling, and surgery room. Askari et al. (17), also maintained that the surgeon's commission, treatment commission, and drug have the most amounts of deductions in studied hospitals and argued that deficiency in insurance documents existing in hospitalized patients' file and not regarding regulations and circulars from insurance companies are in next rates. Also, Khalesi et al. (12), has allocated the most and the least sums of



deductions to surgery and experiments respectively. Safdari et al. has concluded that with the separation of bills according to the type of insurance, drug and consumables have the most sums of deductions. Drug deductions are related to inconsistency among doctor's prescription, nurse report and drug prescriptions, not registering medical orders by a physician and also not confirming and not registering drugs by a nurse. After drug deductions, surgery commission has the most sum of deductions as a result of the general description of surgery and not registering surgery, the date of hospitalization and date of surgery which is consistent with this study's result (21).

Dehnaviyeh et al. (24), has argued that hoteling, lab, and surgeon's commission have the most sum of deduction while electrocardiography, consultant physician's visit, and endoscopy have the least sum of deductions in Firouzgar Hospital and in Hasheminejad Hospital, lab and surgeon's commission have the most and electrocardiography, physiotherapy and endoscopy have the least sum of deductions. Rafiee et al. (22), has said that the most sum of deductions related to hoteling services, surgeon's commission, and drug and the least sum of deductions related to the physician's visit. Tabatabaei et al. also in a similar study in Shahid Rajaei Hospital in Ghazvin has recognized that the most sum of Social Security Organization Insurance deductions related to lab and the least of deductions sum related to doctor visit while in medical services insurance the most deductions related to consumables of surgery room and the least of it related to consultant physician's visit (25) which are somehow inconsistent with the present study results.

In the current study, the physician's visit has the most sum of deductions which in Askari's study this item has been noticed among the reasons for creating deductions in hospitals (17). But different studies have shown different results as Tvakoli et al. (16), has argued that the doctor's visit has the least sum of deductions. Tabatabaei et al. (25), also found out that doctor's visit has the least sum of deductions due to several reasons such as

consistency between the number of doctors and the number of clients referred to hospital during visit time of a physician. If there is consistency between the number of physicians and patients or if medical personnel be familiar with reasons of deductions and how to prevent them, the physician will have enough time to visit and fatigue and business may not hinder him to visit patients. Drug and consumables deductions are the second reason for deductions in this study. In Askari's and Tabatabaei's et al study also drug and consumables are regarded as the main reasons for deductions in hospitals (17,25).

Findings of the study about the reasons for deductions related to the hospitalized physician's visit have shown that visit of resident year 1 and 2 is the second reason for deductions. Stamp and signature of residents year 1 and 2 are not acceptable for insurance, to reduce deductions of the hospitalized physician's visit cost, patients have to be visited by attending physician or residents year 3 or 4 or after being visited by residents year 1 and 2 their prescription be stamped and signed by senior residents or attending physicians, or calculations performed accurately and conflicts between insurance companies and hospitals be solved that are consistent with Rafiee et al. (22), study results.

To clarify ambiguous circulars it is necessary to represent approaches to reduce deductions of drug and consumables cost, correct training and sensitivity of nurse personnel when registering expensive drugs and highlighting them, employing a specialized expert excellent in drugs and equipment to update prices before entering to drugstore, registration of expensive equipment in the paper of surgery description by a technician and rechecking it before exiting from recovery room by the recovery supervisor and discussion of health ministry with insurance organizations.

Approaches to reduce other hospitalized bills costs of deductions, training how to interpret and registration of cases such as monitoring and ECG by physician, notifying earning units to pay some of services by residents respecting academic curriculum and also checking files



before referring to insurance organizations, enough precision, and training, discussion with insurance organization to remove ambiguities and presence of resident doctor constantly in medical centers during evening and night shifts are effective. Absence of accurate and enough information in files are among the limitations of this study.

Conclusion

Financial resources are the most important hospital resources in performing the agenda and controlling them. Insurance deductions impose huge sums to hospitals and waste financial resources which may not be compensated for the hospitals so it is necessary to apply accurate and correct policies to prevent from wasting such resources that are vital for the survival of the organization. Hospital information comprehensive systems are able to register all stages of treatment and perform insurance regulations to provide financial necessities of optimal use from human resources and reduction of insurance deductions. Proper training of human resources, employing hospital information comprehensive systems, smart checklist to control medical documents, investigating and removing deficiencies in patient's file before sending to insurance company are able to prevent from occurrence of main reasons of insurance deductions and wasting financial resources and return financial resources out of insurances to the financial cycles of hospitals since they are the most important points of hospitals earning.

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Conflict of interests

There is no conflict of interests about this research to be declared.

Authors' contributions

Zarei E designed research; Zarei E and Arabi S conducted research; Najafi M and Arabi S analyzed data; Arabi S wrote manuscript. All authors read and approved the final manuscript.

References

1. Organization WHO. The world health report 2000: health systems: improving performance: World Health Organization; 2000.
2. Sadaghiani E. Hospital Organization and management, Tehran, Jahan-Rayaneh publication. First Edition. 1998.
3. Khorrami F, Hosseini Eshpala R, Baniasadi T, Azarmehr N, Mohammadyi F. Prioritizing insurance deductions factors of Shahid Mohammadi hospital inpatients records using Shannon Entropy. Hormozgan Medical Journal. 2013; 17(1): 77-82. [In Persian]
4. Mosadeghrad AM, Arab M, Afshari M. The impact of quality management on reducing bill deductions at operating theatre department of Valiasr Hospital: A participatory action research. The Hospital. 2017; 16(1): 93-101. [In Persian]
5. Bloor K, Maynard A, "Provider payment mechanisms", university of York, 2002: 67, 323.
6. Safdari R, Sharifian R, Ghazi Saeedi M, Masoori N, Azad Manjir ZS. The amount and causes deductions of bills in Tehran university of medical sciences hospitals. Journal of Payavard Salamat. 2011; 5(2): 61-70. [In Persian]
7. Donaldas S. hospital costs Analysis: a guide for managers. Translated Abolghasem Pourreza Tehran: The Research Institution of social security organization. 2002.
8. Witter S, Ensor T, Thompson R, Jowett M. Health Economics for Developing Countries. A Practical Guide: MacMillan Education; 2000.
9. Berry R. Eliminate the tax deduction for health insurance. Tennessee medicine: journal of the Tennessee Medical Association. 2006; 99(12): 7.
10. Mohtasham Amiri Z, Rahimi Kalamroudi H, Davoudi A. Unit Analysis of Health Care Centers in Urban and Rural Area of Guilan. Journal of Guilan University of Medical Sciences. 2008; 17(67): 24-32. [In Persian]
11. Asefzade S, Sepordeh Y, Moosaniaye Zare SA, Mir Tamizdoust M. Study of Specific Income of Hospitals of Guilan University of Medical Sciences in 2012. Journal of Guilan University of Medical Sciences. 2015; 23(92): 63-8. [In Persian]



12. Khalesi N, Gohari M, Vatankhah S, Abbasimani Z. The Effect of Employee Training on Insurance Deduction Rate at Firoozgar Teaching Hospital:2008-2009. *Journal of Health Administration*. 2011; 13(43): 19-26. [In Persian]
13. Karimi S, Vesal S, Saeedfar S, Rezayatmand MR. The Study Deductions of Insurance Bills and Presenting Suggestions Approaches in Seyed Alshohada Hospital. *Health Information Management*. 2011; 7(Special Issue): 594-600. [In Persian]
14. Karami M, Safdari R, Moini M. IMPACT of Hospital Deductions Imposed by the Social Security Insurance on Patient's Teaching Hospitals of Kashan. *Journal of Urmia Nursing and Midwifery Faculty*. 2010; 8(4): 1-9. [In Persian]
15. Mosadeghrad A, Afshari M, Nasrollahi R, Daneshgar S, Karani Bahador R. The Impact of Education on Reducing Bill Deductions in a Hospital: A Case Study. *Hakim Health System Research Journal*. 2017; 20(3): 156-63. [In Persian]
16. Tavakoli N, Saqayyan-nezhad S, Rezayatmand MR, Moshaveri F, Ghaderi I. Documentation of medical records and insurance deductions imposed by health services Insurance. *Journal of Health Information Management*. 2006; 3(2): 53-61. [In Persian]
17. Askari R, Dehghan R, Bahrami MA, Keshmiri F. Study of the causes and amount of applying deductions in Yazd teaching hospital in the first six months of 2008. *Hospital*. 2009; 3(4): 23-8. [In Persian]
18. Mosadeghrad AM, Afshari M, Nasrolahi R, Daneshgar S, Corani Bahador R. The impact of Education on reducing bill deductions in a hospital: A case study. *Hakim Health Systems Research Journal*. 2017; 20(3): 156-63. [In Persian]
19. Omrani M, Farajzade F, Rashidi Gh. Amount and Reasons of Income Deficiencies of Hospitals and Shahid Beheshti University of Medical Sciences in 2011. *Scientific Journal of Organization of Medical System*. 2012; 30(3): 265-71. [In Persian]
20. SadeghTabrizi J, Alidoost S, Mardi A, Farshikhorsand M, Rahmat M. Assessing the Causes of Dedicated Revenues' Fractions in Health Care Centers and Strategies to Reduce Them (A Qualitative Study). *journal of hospital*. 2016; 15(3): 53-62. [In Persian]
21. Safdari R, Ghazi Saeedi M, Sheykhotayefe M, Jebraeily M, Farajolah SS, Maserat E, et al. The Study of Insurance Deductions from Point of Insurance Professionals in Educational Hospitals of Mashhad University of Medical Sciences. *Journal of Payavard Salamat*. 2017; 11(1): 10-9. [In Persian]
22. Rafiei S, Sadeghi P, Asgari M. Comparison of insurance deductions in hospitals affiliated by Qazvin University of Medical Sciences before and after health sector evolution. *Scientific Journal of Perception*. 2018; 12(46). [In Persian]
23. Bagheri H, Amiri M. Study of the causes of insurance organizations deductions from the therapy patients documents in one hospital in Iran. *Healthcare Management*. 2013; 4(3-4): 17-24. [In Persian]
24. Dehnaviyah R, Haji Zadeh M, Najafi B. A survey on the causes and rate of insurance deduction bills with Iranian medical services insurance organization on inpatients' bills in Hasheminejhad and Firoozgar hospitals. *Special Scientific Journal of Health Services Universal Insurance*. 2004; 25(7): 70-4. [In Persian]
25. Tabatabai SS, Kalhor R. The Rates and causes of hospitalization file bills deductions related to the Social Security & medical services insurances in the first half of 2007, in Shahid Rajaei hospital of Ghazvin. *Journal of Homaye Salamat*. 2006; 16(5): 21-3. [In Persian]