THE CHARACTER OF THE DEFECTS
IN THE MEDICAL CARE

The author reviews the character of defects in medical care system in Uzbekistan during the period 1999-2008. The defects in diagnostics and treatment prevail among defects in medical care (DMC). Among diagnosis detection defects the dominating one is undiscovering the core illness (trauma) and its related complications in the performance of obstetricians-gynecologists, surgeons, physician, pediatricians, etc. The treatment defects are found in forms of errors in prescribing and carrying out medical procedures, defects in the surgical treatment and defects in prescribing medications. Investigation has recorded that during last years (2006, 2008) the number of DMC had decreased.

SHAVKAT ISLAMOV
Department of Forensic Medicine, Samarkand State Medical Institute, Uzbekistan

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Introduction

Quality and effectiveness of medical care (MC) is one of most important priorities in the development of health care system in all countries of the world. Especially it is very important for the last time, considering increase of people’s self-consciousness and institutionalizing range of legal documents in this field (Pashinan et al., 2000; Pashinan et al., 2000). In all countries carrying out health care reforms, increasing of MC quality is given high priority. Nowadays evidence based medicine (EBM) takes a big spread in the world. Principles of EBM can be used in the evaluation of the quality of MC. EBM data are supposed to be considered as standard doctors’ action and deviation from this standard is considered as doctors’ mistake (Pigolkin and Bogomolova, 2004). The basic criteria of the quality improvement of MC include collection, analysis and dissemination of scientific data, delivery of correct decision according to the EBM (Asadov et al., 2004) and provision of quality medical services to patients due to principles of EBM (Benjaminsen et al., 2006; Rieck and Moreland, 2005).

Taking into account the global character of medical mistakes, the executive committee of World Health Organization (WHO) in January of 2002 deliberated a special resolution on “Quality of Health Care and Safety of Patients” and ratified the strategy on improving of patients’ safety, where agreed basic measures of improving the quality of MC to population (WHO, 2002). It was noted that significant increase in number of medical mistakes affects the relationship between doctor and patient. It is necessary to confess them honestly and discuss them (Banga, 2001).

In medical practice, one can also observe such mistakes outside the hospitals - in private therapeutic offices, ambulatories and surgical centers. Analysis of results got in three USA states showed that it is necessary to consider mistakes of these medical institutions during their accreditation. It would mostly improve quality of MC (Lapetina and Armstrong, 2002). There were observed 171 types of mistakes in rendering MC process during the analyses of doctors’ mistakes in Australia, Canada, Netherlands, New Zealand, Great Britain and in the USA (Makcham et al., 2002).

Some doctors consider that making medical mistakes must not be a cause of wide anxiety among population. This problem is needed to be discussed, analyzed and prevention measures should be performed (Gray et al. 2006). Defects which happened in the medical health care service are quite often revealed during inspection process carried out by the health care regulatory authorities; during the forensic examination during the investigation process as well (Akopov, 1994).
Under defects in medical care (DMC) we should assume erroneous (with violation of the presented rules, instructions, status, orders, etc.) and other incorrect activities (or inactivity) of the physician in connection with doing his preventing, diagnostic, therapeutic and rehabilitation measures in absence of the direct intention of harmful activity to the patient's health status and regardless whether these activities triggered or not unfavorable outcomes (Buromskoi and Kildushov, 2007).

According to Tomilin and Sosedko (2000) the DMC concept includes the defects in medical care organization, defects in diagnostics and defects in treatment.

Pozdneev and Avzalova (2001) studied the defects in medical documentation keeping in treatment and preventive hospitals. Rykov (2002) observed the pathological examination of DMC. Ermoshina (2005) featured the defects in organization of medical documentation in different specialties, particularly related to the work of dentists. The basic types of DMC in the practical activities of obstetricians and gynecologists were lack of the dispensar observation, mistakes during prescribing and carrying out of medical procedures (DMC in the abortion process, DMC in IUD contraception), including defects in the delivery process (tactic defects in the delivery keeping), defects in the surgical treatment (DMC in the surgical operations with employment of endoscope), and they also it included infringements in keeping of medical documentations (Giyasov et al., 2001; Dmitrieva et al., 2007).

Materials and methods

Material for this study includes inferences of forensic medicine committee (EFC) examinations drawn up as regards of professional infringements of medical workers. These filed examinations were carried out in all 12 regions of Uzbekistan by central and regional forensic expertise bureaus of Uzbekistan Public Health Ministry during the period from 1999 to 2008. 2369 conclusions of the forensic committees' examinations regarding infringements of medical personnel of their professional responsibilities were scrutinized using questionnaires which included classification parameters made up by special computer program.

DMC cases were fixed in 49.4% (1171) of cases from total 2369 EFC prescribed findings. The 620 conclusion protocols and 147 statements of forensic examinations concerning cases of corpses and alive people were studied; other types of forensic documents - conclusions of histological, chemical investigations, etc. were studied. Analysis of EFC protocols were followed by further examination of primary medical documents - case histories, cards of ambulatory patients, delivery process accounts, histories of infants' development, children medical cards, records of the children's development, medical cards of abortions, cards from the ambulance calls, protocols of pathological examinations of dead bodies, and also the data of clinical tests, results of X-rays and other special examinations were studied.

There were other related documents concerning DMC facts studied - protocols of clinical and polyclinic-pathological conferences, statements of departmental investigations, instructions of health care institutions and regulatory authorities. For detailed study of DMC we had worked out the modification of the DMC classification proposed by Tomilin and Sosedko (2000). The classification takes account of specialties, nature of defects, causes of their development, place of defect occurrence and also their influence to outcome. Statistic processing of the received figures was carried out by using the statistical analysis packet in Excel 2003 with calculation of average errors for the average arithmetic means (M±m). The differences were also considered as reliable when 0.01 ≤ P ≤ 0.05.

The investigation results and their discussion

Determining the essence of DMC is important during forensic examination of the quality and timeliness of provided medical care, and this is usually secured through inclusion relevant clinical specialist to expert committee team. In general, 1588 DMCs were revealed in 1178 examined cases as scrutiny in some cases had produced 2 and more defects. It is necessary also to note that only those defects were counted which were assessed by specific forensic examination as having significant importance.
About 75% of fixed DMC (P<0.05) are distributed in Samarkand region (15.4%), Tashkent city (10.8%), Fergana region (10.5%), Tashkent region (9.1%), Kashkadarya region (7.6%), Andijan, Bukhara and Navoy regions (7.1% accordingly).

Specialty structure analysis indicated 84.9% (P<0.05) cases in the following areas: obstetrics and gynecologists (25.2%), surgeons (15.2%), traumatologists (8.4%), pediatricians (7.7%), doctors in the emergency care units (6.7%), infectionists (3.3%), nurses (3.1%), hematologists (2.3%), ambulance aid doctors (2.1%).

By the nature DMC defects were gathered into four groups: organizational, diagnostic, treatment defects and information-deontological defects. Majority of DMC defects went to the diagnostic and therapeutic groups of defects. They made up accordingly 706 (44.45%) and 466 (29.34%) of total (1588) amount of defects.

The analysis showed that number of defects was increasing during 1999-2003 and gradually decreasing for the last years (2007-2008). For example, one can observe that diagnostic group of DMC decreased (P<0.05) from 47.18% in 1999 to 39.75% in 2001, increased to 51.13% in 2004 and decreased to 39.63% in 2005 and to 32.32% in 2008. However, within the diagnostic effects it was noted that erroneous diagnoses of basic disease (trauma) and its complications had prevailed essentially: they had increased from 26.08% in 2001 to 40.33% in 2004, and 43.47% in 2006. Treatment defects increased from 26.76% in 1999 to 24.42% in 2000, from 36.58% in 2005 to 36.36% in 2008 (P<0.05). Among treatment group defects it was noted that the following defects were leading: defects in surgical treatment, errors in prescribing and carrying out medical procedures, irrational management of delivery process and improper use of medicines.

The organizational defects increased in total amount of DMC from 20.42% in 1999 to 25.46% in 2001, showed certain decreased fractions in 2003 (19.9%) and 2006 (16.66%), and certain increased fractions in 2005 (21.95%) and 2008 (28.28%). Among the organizational defects the infringement of transportation rules (6.29%), lacks in management of medical documentations (6.48%) and lacks in dispensar observation (5.79%) were the dominating ones (P<0.05).

The examination highlighted characteristic features of treatment defects in certain group of specialties (surgery, therapy, obstetrics-gynecology, pediatrics, etc.).

1. Surgical specialties:
   a. late performing of surgical operations;
   b. wrong choice of surgical operation method;
   c. inadequate volume of surgical operation;
   d. inadequate volume of infusions;
   e. absence of consultative care;
   f. performing of surgical operation without assistant;
   g. inadequate revision during surgical operation;
   h. defects of anesthesia (incorrect choice anesthesia method);
   i. nonperforming the designated surgical operation.

2. Obstetrics-gynecological specialties:
   a. inability to diagnose obstetrics-gynecological pathology;
   b. inability to diagnose extragenital diseases;
   c. irrational management of deliveries;
   d. technically wrong performing of surgical operations;
   e. wrong choice of contraception method;
   f. wrong performing of preventive activities;
   g. unmotivated refusal of patient’s hospitalization.

3. Therapeutic specialties:
   a. defects in performing instrumental methods of investigations;
b. defects in sanitary-hygienic providing;
c. absence of performance of basic and additional methods of investigation;
d. inopportune use of the consultative care;
e. absence of use of the consultative care;
f. absence of dynamic observation for patients in clinic;
g. wrong use of medications.

4. Pediatric specialties:
   a. underestimation of severity condition of a sick child;
   b. inadequate examination of a sick child;
   c. wrong choice of treatment method in using medicines;
   d. not considering child’s antenatal development given pathology of mother’s pregnancy and delivery;
   e. inadequate treatment in severe disease course;
   f. defects in vaccination;
   g. late diagnosis of severely sick children demanded immediate hospital treatment.

1. The defects in diagnostics in surgical specialties had the following subject manifestations:
   a. non-recognition of acute appendicitis;
   b. non-recognition of traumas of the internal organs;
   c. non-recognition of acute intestinal obstruction, and also its complications - peritonitis, shock, hemorrhages and sepsis;

2. Diagnostic defects among obstetricians-gynecologists:
   a. non-recognition of pregnancies;
   b. non-recognition of period of pregnancy;
   c. non-recognition of complications of delivery;
   d. non-recognition of ectopic pregnancy and also its frequent complications: hemorrhages, shock and peritonitis.

3. Diagnostic defects in therapeutic specialties:
   a. non-recognition of acute respiratory diseases;
   b. non-recognition of inflammatory processes of internal organs (cholecystitis, pancreatitis and others);
   c. non-recognition of diagnose atherosclerosis and also its most frequent complications: acute cardiovascular insufficiency, brain edema, pneumonia and respiratory insufficiency.

4. Diagnostic defects in pediatric specialties:
   a. non-recognition of acute respiratory infections;
   b. non-recognition of pneumonia;
   c. non-recognition of meningococcal infection;
   d. non-recognition of intestinal infections and also most frequent complications: pneumonia, brain edema, pulmonary-cardiac insufficiency and sepsis.

Within the group of diagnostic defects, non-recognition of basic disease (trauma) was mostly observed in practice of therapeutists (12.4%), surgeons (12.0%), hematologists (9.6%), traumatologists (6.7%), pediatricians (6.2%), obstetricians and gynecologists (5.7%), neurosurgeons, neurologists and doctors in the intensive care units (5.3%), ambulance doctors (4.8%) and infectiouis (3.8%) (P<0.05).

Example 1. Conclusion of EFC N6, 1999. Patient “T”, 21 years old, received body injuries and was hospitalized to medical-sanitary department. The following diagnosis was made: "Hypertonic crises, hypertonic disease of the 3-d degree. Lung and brain edema. Ischemic stroke. Disorders in blood circulation in brain, right side hemyparesis”. In spite of performed
Not-diagnosed complication of basic disease (trauma) was presented (P<0.05) in obstetricians-gynecologists (24.7%), surgeons (16.6%), traumatologists (11.8%), therapeutists (7.1%), neurosurgeons (7.1%), intensive care unit’s specialists (6.8%) and pediatricians (5.7%). Not-diagnosed important accompanying disease (trauma) prevailed in medical activities of obstetricians-gynecologists (29.8%), surgeons (16.0%), traumatologists (14.9%) and also in the medical activities of pediatricians (7.4%), intensive care unit’s specialists (6.4%), therapeutists and neurosurgeons accordingly 4.3% (P<0.05).

Example 2. Conclusion of EFC N35, 2001. Patient “A”, 23 years old, received knife injures and was hospitalized to surgical department where after being examined he had a surgical operation - laparotomy-sewing of stab-cut wound of abdomen anterior side with injured omentum, stomach and pancreas; stab-cut wound in right buttock area; cut injuries of right temporal-parietal, frontal, left occipital-parietal and occipital areas. After operation the patient’s condition was a little bit improved, but in a day intoxication signs were gradually increased. The patient’s health condition became worse and for the 5th day in severe condition he was transported to city hospital of another region. In that hospital after 4 days it was performed the second operation - laparotomy with revision of the abdomen area. After surgical operation, without any reasons he was transported to his house where he died in a few days. The causes of death were diffuse purulent peritonitis due to injury of rectum (which was not determined during the surgical operations), fistula of pancreas, post-hemorrhagic shock. It was noted the absence of succession in treatment and tactics of doctors'.

Non-recognition of disease complication prevailed in medical activities of obstetricians-gynecologists (24.1% of total amount of cases), surgeons (19.0%), traumatologists (13.8%) and also in the medical activities of therapeutists (8.6%), intensive care unit’s specialists (6.9%), neurosurgeons (5.2%) and pediatricians (3.4%). Late diagnosis of disease was determined in performance of surgeons (28.6%), obstetricians-gynecologists (26.5%), infectionists, neurosurgeons and traumatologists (8.2% accordingly), it was also determined in pediatricians and therapeutists (6.1% accordingly). Among treatment defects the late diagnosis was determined (P<0.05) in surgeons (20.3%), obstetricians-gynecologists (20.3%), neurosurgeons (14.1%), pediatricians (13.5%), infectionists (9.4%), therapeutists and traumatologists (4.7% accordingly). Errors in prescribing and performing medical procedures (including irrational management of delivery process) highly prevailed (P<0.05) in medical activities of obstetricians-gynecologists (40.3%) and also in medical activities of intensive care unit’s specialists (12.8%), surgeons and nurses (8.1% accordingly), pediatricians and traumatologists (6% accordingly) and in the medical activities of infectionists (2.7%).

Example 3. Conclusion of EFC N10, 1999. Patient “B”, 42 years old with diagnosis “Food poisoning (with sausage)” was hospitalized to infectious diseases hospital. After physical examination, he was prescribed treatment with using infusion therapy. During intravenous infusion of 5% of glucose solution, it was observed a pyrogenic reaction. Due to absence of special hot-water bottle nurse put usual bottle with hot water. Patient got the burn in posterior part of left leg of II-III degree. He had additional treatment in burn department for 11 days.

Wrong use of medication was determined (P<0.05) in the medical activities of the following specialists: intensive care unit’s specialists (18.6%), obstetricians-gynecologists (15.1%), nurses (14.0%), surgeons and pediatricians (10.5% accordingly) and infectionists (8.1%). The other defects in treatment were determined in medical activities of obstetricians-gynecologists (19.0%), surgeons and pediatricians (15.9% accordingly), traumatologists (14.3%), intensive care unit’s specialists (12.7%), infectionists and nurses (4.8% accordingly). DMC of information-deontological character - violation of patient’s rights on performing medical procedures - were determined in obstetricians-gynecologists (52.2%), surgeons and pediatricians (13.0% accordingly) and urologists (8.7%). The wrong official registration or absence of
registration of patient’s refusal from medical interventions was determined in obstetricians-gynecologists (22.2%), surgeons (15.6%), pediatricians (11.1%), traumatologists (8.9%), neurosurgeons and intensive care unit’s specialists (6.7% accordingly) and ambulance doctors (4.4%). The organizational defects - the break of transportation rules - was determined (P<0.05) in activities of obstetricians-gynecologists (19.0%), surgeons (14.0%), pediatricians (12.0%), ambulance doctors (10.0%), therapeutists (9.0%), traumatologists (8.0%), intensive care unit’s specialists (6.0%) and infectionists (5.0%).

Example 4. Conclusion of EFC N29, 2005. Patient “O”, 45 years old. In alcohol drunk conditions and with body injuries he was found by ambulance physician, who without any physical examination took him to his house. The patient during 13 days was in severe condition in his house and then in highly severe condition he was hospitalized to hospital. He was examined by neurosurgeon who excluded the brain trauma and only in 4 days the neurosurgeon performed the neurosurgical operation for resection trepanation of skull. Next day the patient died. If patient was hospitalized and treated on time neurosurgeons could have the opportunity to save his life. In this example, we could see the careless attitude to patient by medical personnel.

The deficits in dispanser observation were determined (P<0.05) in medical activities of obstetricians-gynecologists (64.1%), pediatricians (17.4%), therapeutists (10.9%) and nurses (2.2%). The deficits in conducting of medical documentation were noted in activities of obstetricians-gynecologists (20.4%), surgeons (14.6%), pediatricians (7.8%), doctors who work in Doctoral Work Expert Committee (7.8%), therapeutists (6.8%), intensive care unit’s specialists and traumatologists (5.8% accordingly). The other organizational defects were noted (P<0.05) in medical activities of the following specialists: doctors who work in Doctoral Work Expert Committee (28.3%), pathologists (13.2%), therapeutists (11.3%), obstetricians-gynecologists (9.4%) and surgeons (7.5%).

Conclusions

a. Defects in medical care are significantly pronounced in treatment and diagnosis domains;

b. Non-recognition of basic disease (trauma) and its complications is foremost defect in the group of diagnostic defects. This type of defect is evident in the medical activities of obstetricians-gynecologists, surgeons, therapeutists, pediatricians, neurosurgeons, intensive care unit’s specialists and traumatologists.

c. The treatment defects were determined as errors in prescription and performing medical procedures (including irrational management of delivery), as defects in surgical treatment and as defects in medication treatment. These defects were indicated in the activities of obstetricians-gynecologists, surgeons, intensive care unit’s specialists, traumatologists and neurosurgeons.

d. Our examination showed that number of medical defects decreased during last years (2006, 2008). In the same time, diagnostic and treatment defects increased as portions of total amount of defects.

e. Specific forms of defect manifestations were determined in different medical specialties.

References


