Z dokazi podprta medicina

V 18. stoletju je britanska Kraljeva mornarica med svojimi mornarji utrpela velike izgube. Vojni analitiki so ob štetju vojnih žrtev ugotovili, da je več mož pomorila skrivnostna bolezen kot vojna sama. Na daljših plovbah je za to skrivnostno boleznijo zbolelo več kot dve tretjini mornarjev, ki so imeli enake simptome: krvavenje dlesni, izpuščaje na stegnih, občutek depresije in pomanjkanje energije.

Leta 1747 je James Lind med bolnimi mornarji izvedel kontroliran poizkus. Glede na vrsto zaužite hrane jih je razdelil v 6 skupin. Po šestih dneh se je stanje mornarjev, ki so uživali limone, občutno izboljšalo; bili so praktično brez simptomov bolezni, medtem ko se je stanje mornarjev v vseh ostalih skupinah poslabšalo. Kasnejše študije so pomanjkanje vitamina C povezale z boleznijo skorbut. Lindov eksperiment velja za enega prvih kliničnih poizkusov v zgodovini medicine.

Nekega dne, približno 50 let kasneje, se je na drugi strani Atlantskega oceana George Washington, prvi predsednik ZDA, zbudil s hudimi bolečinami v žrelu. Zbrali so se najboljši zdravniki tistega časa in mu predpisali standardno zdravljenje; v enem dnevu so iz njegovega telesa izpustili približno 3,5 litra krvi. Kmalu za tem je G. Washington umrl. Puščanje krvi je bila najpogostejša terapevtska metoda, ki so jo izvajali zdravniki od antike do poznega 19. stoletja. Leta 1809 pa je prva randomizirana klinična študija pokazala, da je ob puščanju krvi pri katerikoli bolezni verjetnost smrtnega izida desetkrat višja, kot če bolnika sploh ne zdravimo. Kljub temu je bilo puščanje krvi prisotno še nadaljnjih 50 let in se je postopoma opustilo šele v poznem 19. stoletju.

Uvedba kliničnih študij je spremenila nepredvidljivo medicino 18. stoletja v postopek racionalnega kliničnega odločanja v moderni dobi. Rodil se je koncept z dokazi podprte medicine, ki temelji na uporabi najboljših razpoložljivih dokazov za odločanje o diagnostiki in zdravljenju posameznih bolezni. Ker tradicionalno tiskani učbeniki ne morejo slediti eksponentni rasti medicinske literature, so se pojavile spletne različice, ki omogočajo ažurno dodajanje najnovejših informacij. Pomemben vir z dokazi podprte klinične prakse so tudi članki v recenziranih revijah. Medicinska stroka vsak dan objavi

Evidence-based medicine

In the 18th century, the British Royal Navy suffered great losses of personnel. When counting casualties, war analysts discovered that a mysterious disease killed more men than war itself. More than two-thirds of sailors on a average long-distance sail suffered from it, all with the same symptoms: bleeding gums, spots on the thighs, depression, and lack of energy.

In 1747, James Lind performed a dietary test in six groups of sick sailors, and divided them by the type of food that they were given. After 6 days, sailors with lemons in their diet, were significantly improving and were almost without any symptoms, whereas the condition of the sailors in all the other groups deterioated. Later studies have linked vitamin C deficiency to a disease called scurvy, and Lind's experiment was one of the first clinical trials in the history of medicine.

About 50 years later on the other side of the Atlantic Ocean, George Washington, the first president of the United States, awoke one day with a severe sore throat after riding a horse on a cold winter night. The best doctors of that time gathered immediately and prescribed their standard treatment. About 3.5 litres of blood was drawn out of Washington's body in a single day, but he died soon after. Blood-letting was the most common medical practice performed by doctors from antiquity up to the late 19th century, a time span of almost 2,000 years. In 1809, the first randomised clinical trial showed that, if blood-letting were performed in any disease, the chance of a fatal outcome was 10 times higher compared to no therapy at all. Despite that, blood-letting was performed for another 50 years and was gradually abandoned in the late 19th century.

Clinical trials have transformed medicine from a dangerous lottery in the 18th century into a rational clinical decision-making process in the modern era. The concept of evidence-based medicine was born. It is defined by the use of the best evidence available for making decisions about individual patients. Traditionally printed textbooks cannot keep up with the exponential growth of medical literature, therefore, online versions have emerged, which allows the addition of the most recent information in real time. Articles in peer-

ogromno število strokovnih člankov. Podatkovna zbirka Medline tako na primer spremlja 157 oftalmoloških revij, kar v povprečju pomeni več kot 2.000 objavljenih člankov vsak mesec samo na področju oftalmologije. Ob tem se lahko vprašamo, ali je sledenje takemu obsegu novih informacij postalo praktično nemogoče. Skoraj. Na srečo pa obstajajo orodja, ki nam to olajšajo.

Na spletu je veliko različnih podatkovnih zbirk, ki nam pomagajo pri iskanju zanesljivih virov informacij. Zbirka Medline je preko spletnega vmesnika PubMed odprta za javno uporabo in zajema večino recenziranih revij. Predstavlja zlati standard iskanja recenziranih člankov in je v medicinski stroki tudi najbolj razširjena. Naslednji izziv v procesu z dokazi podprte medicine predstavlja prepoznavanje relevantnih kliničnih podatkov. Oceniti moramo verodostojnost dokazov, na katerih temeljijo zaključki študij, saj je lahko nepravilno zastavljena metodologija vzrok neustreznih rezultatov. Glede na zasnovo oziroma metodologijo lahko študije ocenjujemo po trdnosti dokazov, na katerih temeljijo. Sistematični pregledi in meta-analize randomiziranih kontroliranih študij predstavljajo najmočnejšo raven dokazov, retrospektivne študije, serije primerov in prikazi primerov pa so ocenjeni z nižjo stopnjo trdnosti dokazov. Cochrane Library je mednarodna neprofitna organizacija, ki pripravlja, vzdržuje in spodbuja visoko kakovostne sistematične preglede že opravljenih randomiziranih študij. Sestavlja jo skupina približno 28.000 strokovnjakov, ki so doslej objavili več kot 4.000 sistematskih pregledov študij, ki se stalno posodabljajo in katerih število nenehno narašča. Poleg vseh teh orodij, ki nam pomagajo prakticirati z dokazi podprto medicino, obstaja tudi veliko drugih, kot na primer Mendeley, ki uspešno združuje funkcionalnost akademskega socialnega omrežja z upravljanjem bibliografij.

Na dokazih temelječa klinična praksa je koncept sodobne medicine, ki nam omogoča izvajanje razumskega kliničnega odločanja, vendar po drugi strani od zdravnika zahteva dodatna prizadevanja, za katera ob rutinskem delu mnogokrat zmanjkuje časa. Zato je pomembno, da se pri rutinskem kliničnem delu večkrat vprašamo: »Kaj sem pred kratkim spremenil v svoji klinični praksi in kakšna je trdnost dokazov, ki to podpirajo?«

Levin Vrhovec

reviewed journals are another essential source for evidence-based clinical practice. There is an enormous number of articles published each day. For instance, Medline lists 157 ophthalmological journals, which on average, publish over 2,000 articles monthly. Therefore, is keeping up to date mission impossible? Almost, but fortunately there are tools that make it plausible.

There are many different on-line databases that help us find reliable sources of information. Medline (PubMed) is open for public use and covers the majority of peer-reviewed articles. It is the most widely used and represents a gold standard. Sorting out relevant clinical data is another challenge. We need to evaluate the credibility of evidence, as erroneous methodology in a study can lead to irrelevant results. Each study can be rated according to the levels of evidence based on study design. Systematic reviews and meta-analyses of randomised control trials represent the strongest level of evidence, whereas retrospective studies, case series and case reports are rated as a lower level of evidence. The Cochrane Library is an international, non-profit organisation that prepares, maintains and promotes high-quality systematic reviews . It is maintained by a group of over 28,000 experts who so far have published over 4,000 reviews, which are continuously updated and growing in number. Subject covered ranges from the basic to most challenging clinical decisions; all suported by the best evidence available. In addition to all these tools that help us to practice evidence-based medicine, there are also many others, such as Mendeley, an academic social network and reference manager.

Evidence-based practice is a concept of modern medicine that allows us to conduct a rational clinical decision-making process, but it requires an additional effort from a practising physician. We need to remember that it is important to keep asking ourselves on a regular basis: What have I changed recently in my clinical practice and what is the level of evidence supporting it?

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