

Hygiene, Standards, Laws – an ancient troika for healthy living

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Summary: Our world today is filled with more standards, regulations and laws than ever before, but we need to appreciate their value, as they have never been as important as they are now. In order to appreciate their value, we need to work *with* them, avoiding a situation in which these standards are simply imposed by an external, causing them to then exist independently of practices in the field. Collaboration among professionals must remain a top priority.

We mustn't forget that standards and laws for maintaining health are nothing new – many have existed since the dawn of mankind. A number of examples will be cited.

Key words: hygiene, standards, laws

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We live in a time in which the numbers of standards, guidelines, regulations and laws have increased dramatically. In the field of hygiene, these include regulations for fighting and diagnosing disease, environmental impacts of every kind on, for example, air, drinking water, noise and food, maintaining good health and optimising life right into our later years. In 1868-71, the life expectancy of a newborn in Austria was 32.69 years for males and 36.2 years for females (1). A decisive role in causing this was played by the enormous rate of infant mortality and the many infections and epidemics that threatened life from an early age. Then, in the last third of the 19th century, the great triumph of all branches of medicine came about, along with the economic revival of this time. As a result, female newborns in Austria now have a life expectancy of over 82.2 years and males 76.2 years. Playing not only an entirely decisive, but primary role in this were the discovery of the pathogen, the effect of the young field of “hygiene” on our daily lives and other significant developments in medicine. Furthermore, we have been overcome by immense advances in physics, chemistry, biology, technology and in many other fields. We are standing on the precipice of a brand new age in which, more than ever, maintaining optimal health and allowing us to grow older are top priorities in research and practice, as well as for the state.

It is the amount of standards, regulations and laws that is more important than ever today, but despite this, a certain subliminal sense of discomfort has developed here and there, as there are now restrictions in areas where previously there was more freedom. Many professionals do not always see externally-introduced changes in the organisation and operation of the industry only as help or relief, but often also as the tight grip of the state on an area formally characterised by autonomy.

Regardless of one's opinion of these regulations, laws and norms, and how dependent on them we have become, the advantages are obvious. It has finally become possible to, for example, clearly recognise the value of research methods and laboratory results when compared on an international level, as well as actually making these results directly comparable. This then ensures certainty among employees and allows the complete safeguarding of one's own work. Furthermore, this increased safety has proved advantageous for findings, evaluations and decisions, and therefore also for peoples and individuals, directly or indirectly, depending on the investigation aim.

The “Österreichische Normungsinstitut”, the Austrian standardisation institute, founded in 1920 as a non-profit organisation, works closely with European and worldwide standardisation institutes. The Austrian standards (ÖNORMEN) are qualified recommendations, which, to some extent, are adhered to on a voluntary basis, while others are specifically marked to indicate obligatory, statutory or internationally valid fundamental directives.

There are currently almost 20,000 different ÖNORMEN in Austria when the many different subject areas are taken into account. The number related to hygiene is, of course, a relatively small part of that figure. Certification of medical examination centres, for example, is entirely based on the aforementioned standards and provides a basis for centres striving for official accreditation.

These entirely positive aspects could actually only be tainted if a lack of clarity could exist within the system or, if controls become frozen in a pure, high-grade, abstract state, where they authority exist independently”.

Naturally, this fundamentally positive evaluation used in the field of hygiene also applies in, for example, hospital hygiene. The word “hygiene” originally covered an area that stretched further than the scope of “disease prevention”. The original Greek meaning of the word is “good living”, and what could the people of past and present times wish for more? In these times of constant progress, we shouldn't, however, forget that life standards, life rules

or laws for disease prevention, for example, are often not as new as we think; for even our deepest concepts of “hygiene”, there exist a number of regulations, life standards and definite laws in the oldest preserved writings. It can be safely assumed that such rules stretch back even further still, to times when only oral tradition was possible. As soon as man began to live in concentrated populations in small areas, with all the associated problems of waste, excrement, vermin, and the lack of a fresh, clean water supply etc., the time of epidemics and other contagious diseases began. The consequences of these primitive times were actually only decisively changed 130 years ago.

Some examples from a selection of preserved texts (2,3,4)

The Epic of Gilgamesh, perhaps man’s oldest fragmentary preserved composition, deals with man’s primordial desire for immortality. The poem is thought to be based on a king from Uruk, a Sumerian city (in today’s Iraq), some 6,000 years ago. The collected texts were written down in Akkadian about 3,000 years ago; there, it is written “put clean clothes on, wash your head and bathe your body to prevent misery and disease”. Moral uncleanness was also thought to be a key cause of disease, and it was assumed that diseases could be transferred by contact and excess.

Another section describes codes of practice for disease prevention using terms which can also be found in the Bible (see below), such as “have you... perhaps taken part in drunken revelry... or come into contact with someone who is ‘unclean’?” Religious washing and isolation of “unclean” people were certainly very effective in a health sense.

In Ancient Egypt, at approximately the same time, personal cleanliness was regulated in great detail. It was mandatory that even the lower classes washed their hands before mealtimes. People put pomade in their hair or, if of higher status, they shaved their heads, in what were certainly efforts to prevent the spread of lice, in addition to being for mere aesthetic purposes. In the “Ebers Papyrus” a number of further hygiene rules are cited.

Many very specific regulations concerning different types of nourishment were laid down quite some time before, mostly in connection with religious rites. The most well-known of these are perhaps laws forbidding the consumption of pork in, for example, the Jewish and, later, the Muslim faiths. We cannot be certain whether this regulation was triggered by a mass occurrence of trichina, or whether it has entirely different reasons. There have also been food-related taboos among a number of other peoples. The Greek historian, *Herodotus*, who worked in great detail on this topic, described meat inspection in ancient Egypt and, additionally, reported that certain labourers on the pyramids had to, by law, be paid enough money to keep themselves well-fed. The regulations stipulated that this should mainly consist of bread with horseradish, onions and garlic, and a drink similar to today’s beer.

The “Code of Hammurabi” comprised many paragraphs, parts of which were also dedicated to questions of health and medicine. *Hammurabi*, an important Babylonian ruler, who lived around 1700 BC, had the Code chiselled in cuneiform writing into black columns, and then had the columns displayed throughout his empire. Doctors who carried out surgical procedures had to be particularly skilled and careful. “When a doctor uses a bronze lancet to treat a free man for a bad wound, and this man dies, the doctor’s hands shall be chopped off.”

The Books of *Moses* in the Old Testament (written between 1200 and 400 BC) contain many regulations relating to individual hygiene and environmental health. The terms “clean” and “unclean” appear over and over again, in relation to leprosy, for example.

Around 450 BC, one of the greatest physicians of antiquity, *Hippocrates*, wrote a book of regulations for the planning of towns and villages, dealing with positioning streets and houses based on wind direction, providing a clean water supply, combating the smells of faeces, waste and refuse, vermin and pathogenesis. Bad smells and bad air were seen as the direct origins of epidemics and other diseases. This can still be seen in the term “malaria”.

Hippocrates named these disease-inducing, bad airs miasmas. This view of the origin of diseases was held right up until the discovery of the cholera pathogen by *Robert Koch* in 1883. In this example, we can clearly see the influence that great researchers had on the movement from ancient notions and from previous (millennia-old and ineffective) regulations and laws, which were based on incorrect concepts.

Many hygiene regulations were written in “The Law of the Twelve Tables” (*Lex Duodecim Tabularum*, laid down in approximately 450 BC) of ancient Rome. These included among others: transporting food, by-laws for cloacae and drains, burials and jobs, from carrying out censuses to monitoring drainage systems.

In closing, I would like to mention one more standard that is still relevant today. Born in 84 BC, the famous roman architect and master builder, *Vitruvius*, wrote a ten-volume textbook with regulations for town building; his requirements for good drinking water are as follows:

Drinking water must be:

1. free of dangerous and deadly poisons
2. cool
3. clear and colourless
4. pleasant-tasting

We could use these precise requirements as the introduction to any of today’s regulations on the subject of drinking water.

Conclusions

- Health-related regulations and laws are not an invention of modern society.
- Critics of today’s flood of regulations must admit that the enormous amount of new knowledge and methods, which have brought us a longer life expectancy, could not have been optimally applied without the necessary inspection, standardisation, legal regulation and controls.
- The ancient troika of “hygiene, standards and laws” will therefore continue in the future to ensure “good living” in a health sense.
- We mustn’t forget that the system must always clearly remain practically relevant and current with regard to development, and controls and must not exist independently of practice. Today cooperation among experts is more important than ever; it is not a single external claim to leadership.

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Higiéne, szabványok, jogszabályok –az egészséges élet ősi trojkája

Összefoglalás: A földünk napjainkban több szabvánnyal, szabályozással és jogszabállyal van telítve mint azelőtt bármikor, de becsülnünk kell ezek értékét, mert soha sem voltak olyan fontosak mint mostanában. Ezekkel kell dolgoznunk, az érdemüket méltányolva, az olyan helyzet elkerülésére, amelyben a szabványokat egyszerűen valamely külső hatalom róná ki ránk, azzal a következménnyel, hogy azok, függetlenül magukat a gyakorlati élettől önálló létezésre kelnének.

A szakmabeliek együttműködése ezért nagy fontosságú és ez így kell, hogy maradjon.

Nem szabad elfelejtenünk, hogy az egészség megtartását szolgáló szabványok és jogszabályok nem újak, számos közülük létezett az emberiség hajnala óta. Ezt több példán be is mutatjuk.

Kulcsszavak: higiéné, szabványok, jogszabályok.
