Access to opioid analgesics:

Essential for quality cancer care

Willem Scholten, Consultant – Medicines and Controlled Substances, Former Team Leader, Access to Controlled Medicines, World Health Organization.

Correspondence: wk.scholten@bluewin.ch

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Abstract

Many cancer patients suffer moderate to severe pain, but owing to a focus on the prevention of abuse of and dependence on drugs, medical access to opioid analgesics has been neglected. Today, opioid analgesics are not readily available for medical use in many parts of the world. The World Health Organization (WHO) estimates that 5.5 billion people (83 % of the world's population) live in countries with low to non-existent access to controlled medicines and have inadequate access to treatment for moderate to severe pain. Although some have been advocating for improved pain management for several decades, only recently has the inadequate access to and availability of opioid analgesics become an internationally recognised problem.

Measuring opioid analgesic consumption is possible using data from the International Narcotics Control Board. This requires aggregation of the various opioid analgesics expressed in "mg morphine equivalents". For determining the level of consumption that will be adequate in a country, its per capita consumption can be compared with the consumption level in most developed countries by calculating the Adequacy of Consumption Measure (ACM). A correction of the need for opioid analgesics depending on the morbidity level in a country is possible by using HIV, cancer, and injuries as a proxy, but this has its limitations owing to the unreliability of health statistics in some countries.

Independent of the method, all methods show that there is a huge disparity between countries: the difference between the countries with the highest and lowest ACM in 2006 was 40,000 folds.

I Introduction

Many cancer patients suffer moderate to severe pain. Opium is known for centuries and morphine since 1803, when it was isolated for the first time by Sertürner. Yet, for a long time it has not been recognized in society that access to and availability of opioid analgesics is essential for relieving this pain. Among health-care professionals, a focus on treatment of cancer itself used to be the norm and as they considered pain often a symptom, the treatment of pain was, and still is, often neglected. During the past half a century, this coincided with emphasis in drug control policies to prevent abuse and diversion of substances that can cause dependence, such as opioid analgesics, rather than to acknowledge that there is also a medical need for these substances. It rendered opioid analgesics less and less readily available for medical treatment. Harsh situations from all over the world, resulting from inadequate pain relief were described. [1]

In 1989, the International Narcotics Control Board (INCB) drew attention to some governments' overreaction to the drug abuse problem when "...the reaction of some legislators and administrators to the fear of drug abuse developing or spreading has led to the enactment of laws and regulations that may, in some cases, unduly impede the availability of opiates." [2] The Pain and Policy Studies Group at the University of Wisconsin has been a lonely advocate for adequate access to opioid analgesics since the end of the 1980ies, but in recent years both international governmental and non-governmental organizations requested that the situation improve (see section IV*, International developments toward adequate access for all*). Today, with the raising importance of non-communicable diseases because of ageing populations, the inadequate access and availability of opioid analgesics has become an internationally recognized problem.

Opioid analgesics are not the only medicines that are made from substances that are controlled under the international drug control conventions and other controlled medicines face similar problems [3]. For the treatment of moderate and severe cancer pain, opioid analgesics are the only

effective medicines. This chapter will focus on their availability, accessibility and, to a lesser extent, the affordability around the world.

II Extent of the non-availability of opioid analgesics

In 2009, 94% of all the morphine used for medical purposes was used by only 27.7% of the world population [4]. The World Health Organization (WHO) estimates that 5.5 billion people (83% of the world's population) live in countries with low to non-existent access to controlled medicines and have inadequate access to treatment for moderate to severe pain. This includes 5.5 million terminal cancer patients annually and furthermore 1 million end-stage HIV/AIDS patients, 0.8 million patients suffering injuries, caused by accidents and violence. In addition to this, it includes patients with chronic illnesses, recovering from surgery, women in labour (110 million births each year) and paediatric patients. Several of these categories are hard to quantify, due to lack of data. [5]

The INCB is an international UN body responsible, inter alia, for the collection of statistics of production, imports, exports and consumption of opioid analgesics. As countries cannot import or export these substances without a licence and both the importing and exporting country need to submit the amounts to the INCB, the international statistics on the consumption of opioids analgesics are relatively reliable. They are published annually and submission of these data to INCB is mandatory for the countries. [6,7] However, for all other variables that one would need for measuring the adequacy of pain treatment in a direct way by calculating the need of all patients regardless of their disease, global health statistics do not exist. Therefore, if we want to measure the adequacy of opioid consumption around the world, other approaches are needed.

Per capita consumption

Opioid analgesic consumption per capita in morphine equivalents is an absolute presentation of the level of use. A presentation on a per capita basis allows the comparison of the consumption levels of countries with different population sizes. For totalizing the various opioids in use, their amount used needs to be converted into "morphine equivalents" using ratios according their equipotent weights

(e.g. 1 mg of fentanyl being as potent as 100 mg of morphine, 1 mg fentanyl counts for 100 mg morphine equivalents). This can best be standardized by using the Defined Daily Dose (DDD) as established by the World Health Organization [8], which is a universal unit for the quantity of a medicine. It is designed for statistical purposes. By using the DDD, one avoids the problem that various handbooks present different equipotencies. By representing the total use of strong opioid analgesics instead of separate opioids, it is possible to compare countries that use different opioids to treat pain.

The Pain and Policy Studies Group (PPSG) of the Paul Carbone Cancer Centre, University of Wisconsin, presents at its website[1] the total and per capita consumption of separate opioids and of the total of opioids for all countries where data are available from the INCB and they are presented in various ways, including tables, graphs and motion charts. These data go back as far as to 1980 and are annually updated. PPSG states now at its website that it uses the same conversion method.

The per capita consumption is a neutral presentation of the consumption level. However, it does not give any information if the consumption is sufficient or not to treat all pain adequately, or even if there is overconsumption.

Adequate treatment level

Theoretically there would be two methods to determine whether the consumption level is adequate: One is to list all the many diseases that come with moderate and severe pain and should be treated with opioids. For each condition, there should be a trial or survey what the average use per patient is or should be in order to let the pain disappear of be bearable. This should be multiplied with the prevalence for each condition and then all these conditions and diseases need to be totalized for the need for opioids. This calculated total need can then be compared to the actual use for opioids in a country, region or globally. However, these data hardly exist and it is obvious that collecting them for all these conditions is a hopeless task.

[1] http://www.painpolicy.wisc.edu/

Another method is to hold a survey among patients, asking whether their pain is addressed and if it is well addressed. It was done for the Netherlands through a meta-analysis [9] However, to compare between many countries, again, it seems to be a hopeless task.

Therefore, a different method was followed by Seya et al. [10]. They developed the Adequacy of Consumption Measure for strong opioids (ACM). This is a morbidity corrected measure related to per capita consumption of strong opioids. As a standard for adequate per capita consumption they took the opioid consumption of the top 20 countries of the Human Development Index (HDI), whereas this average is set equal to 100%. An ACM of 100% and higher is considered to be adequate. Thus, the method assumes that the average consumption level in the most developed countries is about right. In fact the method has several assumptions: one is that the most developed countries are closest to adequate treatment of pain and the second is that this is best represented by taking the top 20; taking the top 10 would put the benchmark very high and taking e.g. the top 30 (or include even more countries) in the benchmark would bring it very quickly down and would not leave a challenge for countries where treatment is not adequate. In fact, there is some support for the choice of the top 20: the study by Bekkering mentioned above found that 43% of chronic non-cancer pain patients in the Netherlands report not to receive pain treatment and that 79% of patients believe their pain is inadequately treated. [9] This is the same order as the 51% of adequacy found for the Netherlands by Seya, meaning that the country needs to double its opium consumption for being adequate. Therefore, both studies seem to be congruent and therefore, using the top 20 as a benchmark is plausible, although not validated in full.

A third assumption relates to the morbidity correction, which attribute to countries with a higher cancer incidence, a higher HIV prevalence and/or a higher level of lethal injuries a higher need for opioids analgesics. The prevalence of these three diseases is in fact a proxy for total morbidity and it acknowledges that countries with a higher morbidity level have a higher need for opioid analgesics.

The HDI is published annually by the United Nations Development Programme (UNDP). It takes into account standard of living, life expectancy and education [11] and is therefore a broader index than the country income level annually published by the World Bank. Using the top 20 HDI has as a consequence that the standard is not fixed, but shifts over time with the dynamics of the development of countries (each year countries drop off from the top 20 and new countries enter) and with changing opinions about the best practice of treatment of pain. The composition of the top 20 changed considerable during the global financial crisis that started in 2008 and per capita opioid consumption in more developed countries is still increasing. Therefore, a country that increased its absolute per capita consumption from one year to another may still have decreased its ACM if it did not keep pace with the developments in the most developed countries.

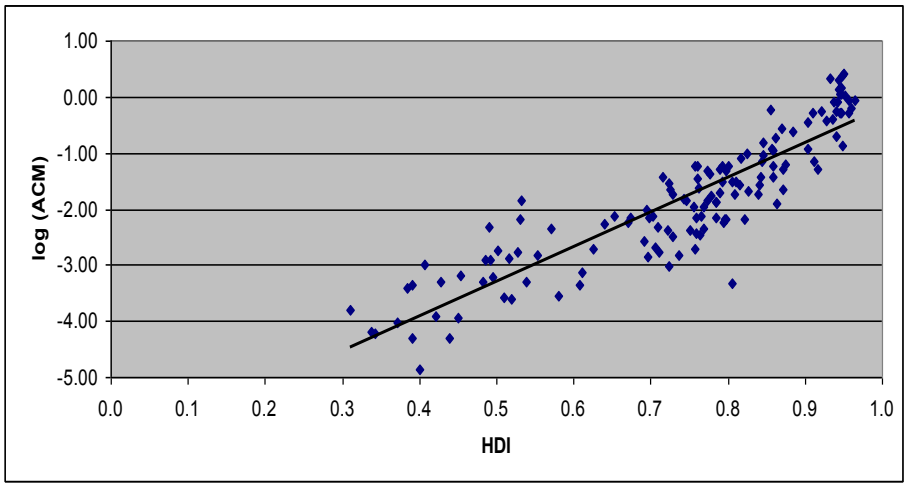
The method developed by Seya et al. is sensitive for the low quality of health statistics around the world. Underreporting of cancer mortality or HIV mortality is a problem in many countries and leads to a too optimistic level of adequacy. A way to circumvent this disadvantage would be to leave out the morbidity correction and to calculate adequacy by expressing a country's per capita consumption and relating this to the per capita consumption of the top 20 HDI.

Global situation

Whatever method is used, all methods show that there is a huge disparity between countries. Seya et al. determined the ACM for 145 countries and related it to the Human Development Index. (Figure 1)

The difference in ACM2006 between Canada and Malawi (which were the countries with the highest and lowest ACM in 2006) was 40,000 times. However, as the graph shows, disparity between countries of the same level development is often also high and also the ACM is relatively low in some highly developed countries.

Figure 1: Relation between the log (ACM) and the Human Development Index (HDI) for 139 countries. (function formula: log (ACM) = - 6.4113 + 6.200 x HDI; N = 139; correlation coefficient: 0.895; p value: < 0.0001). From: Seya et al [9]



Seya et al. also calculated how many people live in each WHO region and in the world at various levels of access. (Table 1) World-wide 4.7 billion people live in countries with virtually no access to opioid analgesics, while only 464 million live in countries with adequate access.

III Availability, accessibility and affordability

For analysing the situation with regard to the use of opioids in a country, the World Health Organization defined availability, accessibility and affordability of controlled medicines. These three terms are derived from economic and health-economic theory. For controlled medicines, the World Health Organization uses the following definitions [12]:

- **Availability** is the degree to which a medicine is present at distribution points in a defined area for the population living in that area at the moment of need.
- **Accessibility** is the degree to which a medicine is obtainable for those who need it at the moment of need with the least possible regulatory, social or psychological barriers.

Table 1 Number of people (in thousands) living in countries, according to Adequacy of Consumption Measure (ACM) and region. From: Seya et al [9]

ACM	*AFRO population (thousands)*	*AMRO population (thousands)*	*EMRO population (thousands)*	*EURO population (thousands)*	*SEARO population (thousands)*	*WPRO population (thousands)*	*Global population in thousands (%)*	
ACM ≥ 1 (adequate consumption)	0	335418	0	128622	0	0	464040	(7%)
0.3≤ ACM < 1 (moderate consumption)	0	0	0	227658	0	24670	252328	(4%)
0.1≤ ACM <0.3 (Low consumption)	0	0	0	127390	0	127953	255343	(4%)
0.03≤ ACM <0.1 (Very low consumption)	1338	206346	76506	94160	0	78566	456916	(7%)
ACM < 0.03 (virtually no consumption)	502501	303900	399919	283081	1718985	1510365	4718751	(72%)
No data	269953	49280	63858	25944	2063	21810	432908	(7%)
Total	**773792**	**894944**	**540283**	**886855**	**1721048**	**1763364**	**6580286**	**(100%)**

- **Affordability** is the degree to which a medicine is obtainable for those who need it at the moment of need at a cost that does not expose them to the risk of serious negative consequences such as not being able to satisfy other basic human needs.

Or, said in simpler terms: is the medicine present in the pharmacy? Is it possible to obtain the medicines from the pharmacy? And: has the patient sufficient means to buy it? All these three conditions need to be fulfilled in order that the patient is able to benefit the medicines: even if opioids are present in the nearest pharmacy (available), if the doctor is not willing to prescribe or the authorities prevent prescribing (inaccessible), or if the patient does not have the money for it (unaffordable) the pain will not be relieved. It is possible to measure availability, accessibility and affordability or aspects of these variables separately, although measuring does not always result in a figure, but rather in a list of medicines, a list of restrictions etc..

Others define five dimensions under the larger concept of access to health-care like availability, accessibility, affordability, adequacy, and acceptability [13] or affordability, availability, accessibility, accommodation, and acceptability [14, 15].

Availability was measured by Cherny *et al.* in their almost worldwide surveys on barriers for access to opioid analgesics, by showing which opioids were admitted to the market by the authorities. The first one relates to the WHO European region (also including the Commonwealth of Independent States) [16] The second study covers the rest of the world except for Canada and the United States of America. For India, it analyses all its states separately. (Publication under preparation). *Accessibility* is also included in the surveys by Cherny *et al.* mentioned above, by exploring which restrictions exist on prescribing and dispensing of opioid analgesics.

The methods used for measuring *affordability* of opioid analgesics are not any different from those for other medicines. However, there are several difficulties in measuring this variable. Just comparing the cost of treatment is not a good indicator, as income levels, exchange rate to one currency taken as a standard and purchasing power vary over time and between countries. It will be clear that the impact of the need for a treatment that costs $ 1 per day is much different for a worker in a high income country, than for workers in low income countries. Therefore, it is important to adjust for the local income and the price level. The WHO-HAI methodology expresses affordability of a treatment

as the number of days' wages of the lowest-paid unskilled government worker required to purchase the treatment. [17] The lowest rank of government worker was taken because it was considered to be a decent wage. However, this is not true for all countries; in some countries wages are that low that the lowest-paid unskilled government worker needs a second job to survive.

Niëns et al. measured affordability of a treatment by the percentage of people that fall into poverty if they pay for that treatment. For this purpose they use the World Bank limits for poverty of US$ 1.25 and US$ 2.00 (purchasing power parity). For example, using the poverty line of US$ 2.00 means that if the daily cost of a (chronic) treatment is y dollars, everybody with a wage below US$ (2.00 +y) will fall into poverty if he has to pay for that treatment. Thus, the percentage of people falling into poverty can be calculated from the distribution of wage levels, by taking the percentage of the population that earns less than US$ (2.00+y) per day. [18] The advantage of this method is that it is freed from a number of arbitrary standards and that the outcomes can be compared over country boundaries.

IV Barriers

A variety of barriers can be at the root of limited availability, accessibility and affordability. In practice, in all countries barriers exist that limit access to controlled medicines including to opioid analgesics. In many countries, these barriers are severe enough to prevent for most patients that they will have adequate treatment when in need. Four categories of barriers can be distinguished:

- Legislative and policy barriers,
- Knowledge barriers,
- Attitudes barriers, and
- Economic barriers.

These barriers will be described now and examples will be given. It is important to realize that often many barriers exist simultaneously, and that therefore the problem of inadequate treatment can

only truly be dissolved if all barriers are removed. However, in many cases it is not easy to dissolve the barriers as some barriers interact and maintain each other. (An example is described below, under Attitude barriers.)

Legislative and policy barriers

Substances that potentially can be abused are regulated internationally by three international treaties, including the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol, which is the most relevant treaty for opioid analgesics.[6,19, 20] This convention is based on the principle that the substances listed in its annexes ("schedules") are prohibited to be possessed, manufactured and handled in several other ways. Health-care professionals are exempt from (parts of) this prohibition and companies that manufacture or trade these medicines can be licensed. Patients to whom the controlled medicines were prescribed are also allowed to possess the medicines. Countries that signed the convention (almost all countries in the world) obliged themselves to implement it in their national law. The requirements from the conventions are a minimum: the parties to the treaties are allowed to apply stricter rules.

Furthermore, the convention has a complex system to control international trade: countries need to submit estimates to the INCB in advance of the calendar year for the amount of each substance that they expect to import. For the actual transfer from one country to the other, the importing country needs to issue an import license and one copy of this license needs to be sent to the exporting country, which checks the balance of the estimate for the substance involved; if the balance is positive, it issues an export license. Often countries do not estimate high enough and then run out of stock in the course of the year, but they can submit a supplementary estimate in order to avoid that exports will be blocked.

There are two ways how this international system of drug control often derails. At the international level many countries are not able to apply the estimate system well and cannot or do not import opioids for this reason. In order to guide the countries how to develop the annual estimates, the

World Health Organization and the INCB developed the Guide on Estimating Requirements for Substances under International Control. [21]

At the national level, the too strict implementation is often the problem. Restrictions that countries add to the obligations from the conventions can be many. Examples are [12]:

- Legal maximum daily dosage (e.g. maximum dosages as low as 75 mg morphine per day)
- Legal limitation of the duration for which opioid analgesics may be prescribed to a very short period (e.g. as short as one day)
- Limitation to certain conditions (e.g. prescription is only allowed for terminal cancer patients)
- Limitation to certain medical specialists (e.g. in one country palliative care physicians are not allowed to prescribe opioids and need to refer to general practitioners; in another country only surgeons, oncologists and gynaecologists were allowed to prescribe opioids until recently)
- Pharmacists and physicians are not allowed to dispense and to deliver if they are not in the possession of an additional license for controlled medicines
- Opioid analgesics are dispensed by the police at the police station
- Obligation to use special prescription forms, sometimes in duplicate, triplicate or quadruplicate and sometimes hard to obtain or to be obtained against a fee.

Administrative barriers are due to these legislative barriers. In some countries, the authorities in charge of drug control are located in ministries such as the Ministry of Justice, and responsible officers are sometimes unaware that the substances they have to regulate are also used as medicines, while the Ministry of Health has little power to influence the situation. In other countries no policies are in place for availability of medicines, cancer control or HIV and so on, thus affecting the ability to treat patients with these diseases for their pain.

Knowledge barriers

Knowledge on the use of opioid analgesics is also problematic in some countries, in particular where opioids are not readily available. Furthermore, many schools of medicines and of pharmacy have very limited time included in their curricula for the treatment of pain.

It is in such a situation almost impossible to become an experienced prescriber. Furthermore, many text and hand books recommend relatively high initial dosages and do not describe how to titrate the dosage to address the pain adequately. In such a situation, physicians when trying out the use of opioids based on the recommendations in the hand books may prescribe too high initial dosages or increase it too quickly, with a result that they see their patient intoxicated and they will not easily use opioids again to treat pain. The new WHO guidelines on persisting pain in children recommend much lower dosages and slow titration [22]. Special attention was given to the lower dosages and a call was made to adapt text- and hand books [23].

Also, there are false beliefs that pain patients become easily dependent on opioid analgesics. However, not many physicians who prescribe opioids themselves have seen dependence developing from the opioids they initiated. A recent systematic review could not identify convincing evidence for dependence resulting from pain prescriptions and concluded that it is not justified to withhold treatment to patients because of this fear. [24]

Attitude barriers

Attitude barriers are found among health-care workers, patients and their families, as well as policy makers. They are often related to knowledge barriers. For instance, many doctors have opinions about opioid analgesics without ever prescribing them. Some of them fear for dependence, mix up withdrawal and tolerance with dependence, or fear that their patients will die from opioids. The fact that opioids are not available in many countries makes that these physicians will never be able to experience the actual benefit/risk ratio of opioid analgesia in their patients and therefore this contributes to the very low demand for opioid analgesics in these countries. But the fact that there is no demand maintains also their unavailability as there is no advantage for manufacturers to try and

sell these medicines. In this way, the lack of knowledge and this attitude interact and maintain each other. Other health-care workers tell themselves that neonates do not feel any pain or find it normal that a certain disease or intervention coincides with severe pain.

Similar attitudes that prevent adequate use of opioid analgesics exist among patients and their families; for instance the myth that one easily becomes dependent or that one will die from the opioids. [1] The fear of becoming dependent exists even in terminal cancer patients. In fact, if prescribed correctly, opioids are safe medicines, but because they are so often only used in end stage cancer, there is an association between death and morphine use, which is interpreted by many as a causal relationship with morphine as the cause. Although this may be true if the morphine is not dosed correctly, in most cases it is more likely that the disease is at the root.

Policy makers tend to give priority to the prevention of abuse, dependence and diversion of opioid medicines. This may easily lead to restriction on the prescription of opioid analgesics, even if there is no proven mechanism that shows a relation between treatment of pain patients and opioid abuse. In the United Kingdom the conviction of Harold Shipman, a practitioner who killed over 250 of his patients with injections of diamorphine lead to the restriction of the validity of a prescription to 30 days, while the amount on a prescription may not exceed 1 month. It is clear that this does not limit physicians' access to opioid medicines, but indeed, every patient needs to consult his practitioner now every month for a new prescription. [25] This is time consuming, causes frequent absences from work, and in case of patients who are stable on their medication, this may be exaggerated.

In the United States of America, the national epidemic of overdoses from prescription opioids leads to a campaign in the press and by others to limit patients access, even though there is evidence that these medicines usually do not originate from patients. While there are insufficient data available to quantify the amounts diverted to non-medical use from various parts of the drug distribution system, it appears there is significant theft, fraud and other unlawful conduct. [26, 27] A national population-based survey found that over 70% of those who have reported using opioids non-medically admitted

that they obtained the drug for free from friends or family members or through theft or purchase. [28] Large quantities of prescription opioids have been sold by illegitimate pain clinics and overdose has occurred predominantly in persons obtaining opioids from non-medical sources [29]. In a study of unintentional overdose fatalities in West Virginia, 63.1% of the decedents had used pharmaceuticals with no documented prescriptions, and 55.6% of the decedents were never prescribed opioid analgesics. In addition, 79.3% of the decedents has used multiple substances, both illicit and prescription drugs ("polydrug use"), which might have contributed to their death, and 21.4 % of the decedents had controlled medicines prescribed by multiple physicians ("doctor shopping"). [30]. This study did not determine, however, whether decedents from the latter group were 'real' pain patients, or people seeking drugs for illicit purposes. Another American study, describing 9940 cases of overdose deaths, found 51 cases to whom dosages of 100 mg/day or higher of morphine equivalents were prescribed during the first three months of a prescription episode, showing an increased risk for this group. [31]

Economic barriers

Economic barriers are not any different for opioid analgesics than for other medicines. High prices and failure to distribute the medicines adequately are common, even although morphine is a cheap starting material and can be made available for even USD 0.05 per day per patient. However, some specific additional barriers exist for those medicines which are controlled as drugs. Examples are that low price levels are often related to low mark-ups. If this is the case, pharmacists and distributors often do not want to invest in a legally required wall-safe or strongbox. (In some cases the legal requirements are disproportionate to the amount to be stored.) Also the amount of paperwork can be disproportionate if the amount of medicines is limited, or it can push up the price. [1]

Overviews of barriers

There are various publications that give overviews of the barriers [16, 32] and pricing of opioids. The WHO policy guidelines also provide a checklist to analyse the national situation in a country.

IV International developments toward adequate access for all

The World Health Assembly requested from WHO in a resolution to "examine jointly with the International Narcotics Control Board the feasibility of a possible assistance mechanism that would facilitate the adequate treatment of pain using opioid analgesics". [34] In response, the World Health Organization established the Access to Controlled Medicines Programme (ACMP). [36] Over the years, the ACMP developed a number of documents to guide policy makers and health-care professionals to improve access to opioid analgesics and other controlled medicines. For example, it planned to develop a series of treatment guidelines on pain, together covering all types of pain, while in the past only cancer pain has been addressed [37, 38]. Currently the evidence based guidelines on persisting pain in children is published [22] and a scoping document describing the outlines of similar guidelines for persisting pain in adults. [39] The ACMP also published the WHO policy guidelines Ensuring Balance in National Policies on Controlled Substances, Accessibility and Availability of Controlled Medicines. [12] This document includes a country checklist to identify the specific barriers in countries. It is recommended not only for policy makers, but also for organizations of health-care workers who want to work on improved access. Jointly with the INCB, the ACMP published their guide on estimating requirements already mentioned above. [21] Although it is intended for use by the competent authorities for the international drug control treaties, it is recommended that other organisations are familiar with this document, in particular in countries where the importations of controlled medicines pose regular problems. In that case the estimate systems may be involved and it happens that health-care professionals guide the authorities how to solve the problem. The ACMP and a number of NGOs provide support to countries that want to improve access to controlled medicines e.g by organizing workshops and reviewing (draft) legislation.

The INCB continues to advocate for improved access and in most years its annual report makes recommendations to the countries who are parties to the international drug control treaties. Recently, it published a special report on the availability of internationally controlled medicines [4]. Strange enough, simultaneously the INCB lobbies since several years among the countries to place

ketamine on their national lists of controlled drugs, in this way precipitating a global crisis for anaesthesia similar to the current crisis in analgesia, while WHO assessed that the substance should not be placed under drug control. [40, 41, 42]

The UN Commission on Narcotic Drugs, also called for greater access for patients to these medicines on several occasions. [43, 44]

In addition to these diplomatic activities, international organizations of health-care professionals made the call for adequate access to pain medicines and treatment of pain worldwide heard through documents like the Declaration of Montreal, the World Cancer Declaration, the Morphine Manifesto and the Declaration of Miami. [45, 46, 47, 48] Other international projects are the Global Access to Pain Relief Initiative (GAPRI) [49] and the ATOME Project. The latter is a comprehensive EU funded project ran by ten organizations, including WHO targeting at 12 eastern European countries. [50]

V Conclusion

"All moderate and severe pain in children should always be addressed. Depending on the situation, the treatment of moderate to severe pain may include non-pharmacological methods, treatment with non-opioid analgesics and with opioid analgesics" is the approach in the new WHO treatment guidelines on persisting pain in children. [22] Although there are no WHO persisting pain guidelines for adults currently, it could be imagined that such a document, would not say any different because of the ethical aspect. It should be noticed that the guidelines do not impose to treat with opioids, but it imposes to act. However, in most cases of moderate and severe pain opioid analgesics are indicated and even inevitable. It is for this reason that access to opioid analgesics is of utmost importance, but in spite of that, it is still an unfulfilled hope for the majority of the world population. Yet, a change has set on by the efforts of international bodies and NGOs. It is likely that many are already working on these issues on the national and local level in many countries. Sooner or later all countries will have to follow, when it becomes clear how beneficial and effective pain treatment can be.

In order to ensure that “effective pain control measures will be available universally to all cancer patients in pain” by 2020 (as mentioned in the World Cancer Declaration) [46], we will need to record our progress and to analyse the barriers for adequate pain management. Only by doing both, we can work on solutions and ascertain that our efforts are effective. By treating the pain, we accommodate the patient by improving his quality of life on one important aspect of his or her disease, which is the pain, sometimes excruciating. It is for this reason that access to opioid analgesics is essential for quality cancer care. And this is possible.

Key Points

- Access to and availability of opioid analgesics is essential for relieving this pain, yet opioid analgesics are not accessible to 5.5 billion people.
- Each year, 5.5 million terminal cancer patients, 1 million end-stage HIV/AIDS patients and 0.8 million patients suffering injuries, caused by accidents and violence are not treated for moderate and severe pain. In addition to this, it includes patients with chronic illnesses, recovering from surgery, women in labour (110 million births each year) and paediatric patients.
- Various methods exist to measure the consumption, usually in morphine equivalents. The top 20 countries from the Human Development Index can be used as a benchmark.
- The adequacy of opioid analgesic consumption has a high logarithmic correlation with the Human Development Index (CC= 0.895)
- Availability is the degree to which a medicine is present at distribution points in a defined area for the population living in that area at the moment of need.
- Accessibility is the degree to which a medicine is obtainable for those who need it at the moment of need with the least possible regulatory, social or psychological barriers.
- Affordability is the degree to which a medicine is obtainable for those who need it at the moment of need at a cost that does not expose them to the risk of serious negative consequences such as not being able to satisfy other basic human needs.
- Four categories of barriers can be distinguished: legislative and policy barriers,knowledge barriers, attitudes barriers, and economic barriers.
- In recent years efforts for improvement are undertaken by international bodies (World Health Organization, International Narcotics Control Board, Commission on Narcotic Drugs), and by non-governmental organizations (International Association for the Study of Pain, Union for International Cancer Control, Pallium India, American Cancer Society). Joint initiatives as the Global Access to Pain Relief Initiative (GAPRI) and the Access to Opioid Medications in Europe (ATOME) were initiated.

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