Art as an instrument to develop empathy

In a previous article called Art as an educational tool in medicine, we discussed the idea of introducing art as a teaching resource in healthcare professional training based on the power of art's symbolic language to reflect human emotions.[1]

In this article, we will analyze one of the main components of the world of indescribability: the empathic attitude. Empathy is the sublime human capability of experiencing another person's feelings "firsthand" and of making them patent even in the relationship with that other person, whether they are pleasant (joy, relief, etc.) or unpleasant (sadness, pain, etc.).[2,3] When one's experience is related to another person's suffering, empathy is referred to as compassion. In addition, *compassion* should not be confused with *mercy* although both terms refer to experiencing another person's suffering, compassion does it from an equal emotional stance, while mercy is indicative of an alleged superiority. Empathy is also different from *sympathy*, which produces an emotional contagion so that a person who feels sympathy is not capable of distinguishing between his/her own emotions and those of others, therefore losing objectivity. *Empathy* should also be differentiated from a kind manner (courtesy) and from the sorrow caused by another person's misfortune (pity), since these two do not imply sharing another person's feelings.[4] Practicing empathy requires the arrangement of a series of conditions: on the one side, effort and open-mindedness to recognize the other person as an emotion bearer; on the other side, courage and patience to temporarily experience such emotions oneself, in order to understand them, since the end goal of empathy is to comprehend another person's experiences. For this reason, following an emotional communion, empathy requires to "put some distance" from the other person to make an objective assessment of the situation and take the correct decisions and actions. An empathic experience is therefore translated into emotional support, which should be transient.[(2-4)]

As a result, although all human beings have an innate capacity to feel empathy, it may be enhanced through its practice and better understanding by means of reading (literature), contemplating (painting, sculpture, dancing, filming) and/or listening (music) to the masterpieces of universal art. Thanks to their great talent, authors have been able to instill a strong symbolic effectiveness into their pieces of art so much so that getting to know this type of material is transformational and turns the person who comes into contact with them into a more sensitive and empathic being.[5-10]

Below are some examples found in the universal literature:

James Joyce's Ulysses includes several paragraphs describing the great empathic capability of its main character (Leopold Bloom), for example, when Bloom remembers Mrs. Purefoy, who has just given birth, and feels the same labour pains: *Poor Mrs. Purefoy! Three days imagine groaning on a bed!… Child's head too big: forceps.*

During an empathic experience, the situation encountered by the other finds a resonance in the inner world of the observer, and such connection is made possible thanks to the "shuttle to the past" that is emotional memory. The thing is that only what is felt can be recognized, and once identified, it means that it has been experienced. This type of memory is masterly described by Marcel Proust in Swann's Way*:*

… But at the very instant when the mouthful of tea mixed with cake crumbs touched my palate, I quivered, attentive to the extraordinary thing that was happening inside me. A delicious pleasure had invaded me, isolated me, without my having any notion as to its cause. It had immediately rendered the vicissitudes of life unimportant to me, its disasters innocuous, its brevity illusory, acting in the same way that love acts… Where could it have come to me from –this powerful joy? I sensed that it was connected to the taste of the tea and the cake, but that it went infinitely far beyond it, could not be of the same nature…

In his novel The Magic Mountain, Thomas Mann describes the feeling of suppression of time and space coordinates that surrounds a person who goes through an empathic experience:

… Quite suddenly he found himself in the far distant past, transported to a scene which had come back to him in a dream some nights before, summoned by certain impressions of the last few days. But so strongly, so resistlessly, to the annihilation of time and space, was he rapt back into the past, one might have said it was a lifeless body lying here on the bench by the waterside, while the actual Hans Castorp moved in that far-away time and place...

Empathy benefits both the recipient and giver. It allows the former to be better understood and the latter to be more understanding of the other person's experience. Likewise, a person

who practices empathy gets to live "many lives" and progressively acquires a vast wealth of life experience and wisdom, far beyond what he/she might have achieved within the narrow confines of his/her ego.[2,3]

We thereby conclude that introducing art as an educational tool is highly valuable for developing a better empathic capability among healthcare professionals.

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Weaknesses of assisted electronic prescription in hospitalized pediatric inpatients

Medication errors (MEs) are a health problem that take on particular relevance in the pediatric population. It is well known that the risk of experiencing adverse effects induced by medication errors in this population is higher. Besides, MEs acquire a greater importance in the pediatric population because a minor error that can be tolerated by an adult could cause significant damage in a child.

Analyzing and identifying the causes that lead to MEs is essential to adopt corrective measures and strategies to reduce such risks for future patients. It should be noted that in the case of children, specific factors make MEs differ from those of adults, as well as their causes. Knowing such differences is important at the time of adapting error prevention strategies to the child population.

In the field of pediatrics, as well as in the adult population, new technologies are now playing a critical role in risk reduction. New technologies allow to detect errors and to implement measures to reduce them in a specially vulnerable population. At present, given that MEs occur mostly in the prescription phase, one of the most commonly used tools to reduce them is the assisted electronic prescription (AEP) system. This type of software also includes support platforms to help with the decision-making process.[1]

There are few articles published about the effect of AEP on MEs in relation to the pediatric population when compared to the adult population, and these show varying rates of error reduction. In addition, results are hardly comparable given the high variability and lack of consensus regarding the definitions of ME, adverse effects, detection methods and prescription software used.[2] However, given that most of these studies have demonstrated AEP effectiveness, agencies such as the American Academy of Pediatrics now consider it the main strategy to reduce prescription errors and to improve the safety of pediatric patients,

both hospitalized and seen at the emergency department. The bibliography also includes recommendations on key points that such systems should offer to fit pediatric prescriptions.[3]

In spite of the advantages evidenced by AEP, it still poses some weaknesses. Thus, some authors have demonstrated that AEP induces new medication errors and, in fact, most are related to its use. A recently published study[4] showed that AEP reduced the prescription error rate among adult patients to 0.8%, and most of such errors (77.7%) were associated with the use of this technology. One of the most common errors was the incorrect selection of a drug from an alphabetical listing, which may result in severe damage since there is no relationship in terms of therapeutic effect between one drug in the list and the next. Errors like these have also been reported in children.[5] Such errors may be overcome if drugs were grouped and listed by therapeutic indication or by related conditions. Another type of prevalent error was due to the lack of training on how to use the software, with prescribers entering data in an incorrect field or using free text fields, which also led to numerous errors. Some authors have demonstrated that the risk of error using free-text prescriptions was five times higher than when using standardized structured text.[3] As a result, for example, duplication errors have been detected due to drug prescriptions made both in the electronic list and in free text fields, or because allergies are not recorded and therefore the software fails to trigger an alert.[4,5] Such inadequate data entry may result in potentially serious consequences for the patient. Additionally, alerts triggered by AEP systems have proven useful; however, excessive alerts may lead physicians to completely ignore them.

Besides new errors induced by electronic prescription systems, another significant weakness observed in the pediatric population is that this prescription method entails a new hurdle that is the adaptation of software designed specifically for adults. Such localization is difficult and sometimes ineffective, and may result in new errors. This is a common problem in many hospitals where both adults and children are seen. The lack of software localization makes it difficult for pediatricians to use it and requires a high degree of specialization and skills. The main problem is that prescription aids, which have proven to be highly effective for error

reduction, are based on treatment indications for the adult population, rendering them inefficient for pediatric prescriptions. For example, the usual dose indicated by the software for adult patients is not applicable to children because it depends on age and weight. In addition, these systems hardly allow access to pediatric drug information databases. Another problem that may contribute to dosing errors is omitting to enter the patient's weight, which is critical for pediatric prescriptions so that maximum or minimum dose alerts are triggered. In this regard, making this a field of mandatory completion before making a drug prescription would also reduce this type of errors.

Another specific problem related to drug therapy in children that sets it apart from adult prescriptions is the unavailability of drug presentations with concentrations and pharmaceutical forms adequate for the child population. This leads to drug manipulation and the use of pharmaceutical compounding in the Pharmacy Department and its inclusion in databases to make them available for prescriptions. It is often difficult for prescribers to find such formulas in the software, so they end up selecting the wrong commercial presentation, which may, in turn, lead to new errors. Besides, in the field of pediatrics, it is common to make prescriptions indicating the dose per volume, so if changes are made in drug concentration or formulation, keeping the volume prescribed for administration may lead to under- or over-dosing errors.

To sum up, we would like to point out that, although AEP systems have demonstrated their effectiveness in reducing medication errors in the child population, at present, they have two main weaknesses. On the one side, the introduction of new errors associated with the use of these systems; on the other, the complexity entailed by trying to adapt them to pediatric prescriptions. It is necessary to standardize these software applications for their use in the pediatric population and to have access to links that provide updated information on pediatric indications and usage aiming at improving safety in pediatric patients. Besides, for risks to be minimized, it is fundamental to have adequate knowledge on how to use the software, which implies a continuous and specific training of the health care personnel responsible for looking after hospitalized children.∎

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Writing a scientific paper abstract

The main objectives of scientific meetings include encouraging the exchange of experiences among participants. Making such experiences known to others is usually achieved through an "Abstract," defined as an abstract from an original research, a clinical case report or a professional experience. An abstract is a piece of scientific writing that, even though it refers to a larger piece of writing, it should be absolutely independent and convey knowledge in an understandable manner.

The ability to communicate an idea in a few words (usually less than 300 words) to our colleagues is a skill that, as many other skills in our profession, can be acquired. In addition, such space limitation forces us to summarize our work and select only its best parts.[1]

In the case of research, a generalized practice is to have "structured" abstracts, i.e., pre-established fixed sections.[2] Taking into account slight differences, structured abstracts include the following sections: Introduction, Methods, Results, and Conclusions.

The Introduction should include at least one phrase about the study rationale (why research should be carried out) and clearly state the research objective (research question). The Methods section should include the least number of elements necessary to establish the study adequacy, which encompasses design, population (main inclusion criteria), data collection methodology, primary outcome measures, main analysis methodology, and study location and time. The Results section should only refer to the main results, including selected basic descriptive considerations (population and frequency) and the primary outcome measure assessment. Secondary results may be included based on their relevance and available space. The Conclusions section should include the answer to the research question and, finally, some recommendations based on results obtained or regarding future research. It should be noted that the Abstract should not include information which is not described in the original article.[3]

There are other elements to be taken into account when writing an Abstract to be presented at a scientific meeting, for example, the article's title, authors, participating institutions and iconography.

The title should be the same as that of the original manuscript; however, at many meetings, the title is included in the maximum allowed number of words/characters, making it necessary to abbreviate it but always bearing in mind the characteristics that make up a good title: brief, specific, representative and descriptive.

Including the authors in the Abstract will depend on the general authorship considerations.[4] It should be noted that, as with the title, many meetings include authors in the maximum allowed number of words/characters, another relevant factor to be taken into account when deciding whether or not to include all authors in the Abstract. The same regard should be given to participating institutions, an item that easily helps us save words/characters.

Although sometimes it is possible to include tables or graphs in the Abstract, careful consideration should be given to their inclusion (and, if possible, it should always be disregarded). Including tables or graphs is usually difficult, they could easily get messed up when submitting the Abstract in electronic format, limit the number of words/characters to be included, and their interpretation is usually more complicated than what authors believe.

Lastly, acronyms and literature references should also be considered. The use of acronyms should be restricted and limited to particularly long (more than three words) and frequently repeated (more than three times) terms; obviously, acronyms should be explained in the Abstract the first time they are mentioned. Finally, there is no place for literature references in the Abstract. Potential conflicts of interest should also be taken into consideration and any funding received for research should be described.

Having analyzed all of the above considerations of what should or should not be included in an Abstract to be presented at a scientific meeting, we come to the practical point: how to write an Abstract. A resourceful method is to start looking at the complete article and remove those pieces that are not essential for comprehending the article. Starting with a 2000 word manuscript, it is easy to end up with a 500 word initial Abstract. Then, we should select the main contents and, finally, rearrange the grammar so as to achieve an understanding of the main idea with the fewest number of words. Let's imagine we start from a block of marble that we want to carve into a sculpture: we would first give it an indefinite shape and then go over the details again and again until we achieve the expected outcome.

Although the main objective of an Abstract is, as herein described, to be presented at a scientific meeting as an introduction to an article, the same aspect should be taken into account for abstracts included in original articles submitted to scientific journals for possible publication or those included in a project seeking funding.[5] Although Abstracts are accompanied by the complete manuscript and a wealth of information, in both cases they play a key role. An Abstract is definitely the first thing journal editors and peer reviewers read, as do the jury in an examination session, and therefore it will predispose them to continue reading the entire article. A well-written Abstract will create an interest in those responsible for reviewing an article.

Notwithstanding the considerations described in this manuscript, it is always important to review (and follow) the specific instructions established for each Abstract we write. In addition, we should also note that many scientific meetings require that the Abstract to be written in English. It is very important to make a comprehensive review of our English writing so as to increase our chances of getting accepted and, also, of being correctly understood.[6]

Finally, in these times of brief communication due to the available technical resources that has resulted in the use of a hardly comprehensible jargon, it is essential to verify that our writing is understandable to all those we are willing to reach. ∎

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