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Proposal on the combination of therapeutic alternatives for the treatment of pain in Primary Health Care

Abstract

Introduction: The fight against pain is a concern of medicine since the emergence and development of the human being, as evidenced by several researchers. The scientific literature currently shows that a correct biopsychosocial assessment, an adequate and individualized comprehensive therapeutic plan and multidisciplinary management improve chronic pain in terms of pain reduction, essentially in terms of emotional, psychological and functional aspects.

Adequate pain management is based on a correct performance of the medical staff, which leads to an improvement in the diagnosis and treatment of pain in Primary Health Care.

Objective: The objective is to elaborate a proposal on the combination of therapeutic alternatives for the treatment of pain in Primary Health Care.

Methods: Theoretical level methods such as synthetic analytical, empirical level observation and expert criteria were applied, with the Delphi method, and at the mathematical level, the relevant statistical analysis of the methods used.

These allowed to propose the integration of Pharmacological, Psychological, Physical Medicine and Rehabilitation and Natural and Traditional Medicine contents for the integral treatment of pain in Primary Health Care. The proposal was scientifically assessed by experts through the Delphi method and was applied in two community health areas in the municipality of Cienfuegos, Cuba.

Results: It is evidenced in the elaboration of the proposal to treat pain integrally, through the combination of pharmacological, non-pharmacological, Psychological, Natural and Traditional Medicine, Physical Medicine and Rehabilitation therapeutic alternatives, validated by the Delphi method, it was demonstrated the acceptance of very adequate the proposal by the selected specialists as well as the observation of the change of performance in the General Physician in Primary Health Care in the treatment of pain in the patients of the community.

Conclusions: The proposal was validated as very adequate by the experts and its application in the context of Primary Health Care. Demonstrating the relevance of the proposal, we consider that the combination of therapeutic alternatives is a developing field that should be part of the professional skills of the General Practitioner.

Keywords: pain treatment, combination of therapeutic alternatives, primary health care, delphi method

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Introduction

In the last two hundred years it was possible to move towards the current theories of pain, with the contribution of Johannes Peter Muller, Schiff, Erb, Nafe, Livingston, Wedell and Sinclair, until reaching the pain theory of Ronald Melzack and Patrick Wall, the gate theory, which has dominated the thinking of the world scientific community in the last fifty years.[1]

The clinical approach to many chronic pathologies has been directed at reducing the magnitude of signs and symptoms, including pain. This has traditionally involved analgesic pharmacotherapy, but recently other therapies have been introduced such as psychotherapy, rehabilitation and, in the last fifty years, neuro modulation through magnetic stimulation, radiofrequency pulses and pump systems that deliver neuromodulators directly into the intrathecal space.[2,3]

It is now clear that a correct biopsychosocial assessment, an adequate and individualized comprehensive therapeutic plan and multidisciplinary management improve chronic pain in terms of pain reduction, essentially in terms of emotional, psychological and functional aspects.[2,4]

Two concepts that should be differentiated in pain management are multimodal and multidisciplinary, where the former refers to the combination of mechanisms of action between two drugs, as well as mixing different regional and systemic analgesic techniques, the term disciplinary is defined as a group of people, with different academic

backgrounds and professional experiences, operating together, for a given time, with the aim of solving a complex problem, that is, with a common goal.[5]

In recent years pain management has focused on the potential therapeutic combination of analgesic drugs these should provide synergistic effect, reduce the dose, and have a better safety profile. Combination analgesic therapy with different groups of drugs has an advantage in targeting both peripheral and central pain pathways and helps to produce analgesia with lower doses and better tolerability than commonly used drugs, which is why combination therapy positively influences pain minimization.[3,5,6]

Coping with pain is a complex and multifactorial phenomenon that requires a multidisciplinary approach. The definition of multimodal analgesia is associated not only with several drugs that differ in their mechanism of action, but also with different techniques that act by other routes, resulting in greater effectiveness over their single use, consequently decreasing adverse effects and increasing patient satisfaction.[6]

In the therapeutic combination, one must keep in mind the current interdisciplinary view that medicine is incorporating somewhat belatedly despite the early recognition bequeathed by the pioneers of the fight against pain, and which recalls the true complexity of the phenomenon, the psychic and physical aspects that are key in the serious impact on the interests of the person immersed in depression, disability and even with suicidal ideas in the worst situations.

In pain management, primary care physicians, are often the first to diagnose and treat conditions that cause pain, both acute and chronic. This places them in a key position to treat pain, assessing both pharmacologic and nonpharmacologic options that are safe and effective for their patients.[5]

Currently in light of the epidemiology of the pain patient, it is essential to integrate contents of Psychology, Natural and Traditional Medicine, Physical Medicine and Rehabilitation to treat pain with different therapeutic combinations before a patient with pain. Therefore, it was decided to carry out a research aimed at integral treatment through a proposal of combination of therapeutic alternatives in two health areas in Primary Care in the municipality of Cienfuegos, Cuba.

It is proposed to combine different therapeutic alternatives, applying the logic of the clinical method and its steps, the WHO considers that the formal combinations of treatment, which have been scientifically proven to be effective.

The combination of therapeutic alternatives for the treatment of pain, promote medical skills, to approach the treatment of pain from the pathophysiological and considering the painful syndrome, taking into account whether it is an acute or chronic pain. This premise should be incorporated in the professional skills of the General Practitioner in order to achieve the integral treatment of pain and improve the quality of care for these patients.

Objective: to elaborate a proposal on the combination of therapeutic alternatives for the treatment of pain in Primary Health Care.

Methods

Analytic-synthetic: to analyze the existing literature on the treatment of pain and the combination of therapeutic alternatives in primary health care and to elaborate the proposal.

Observation: to assess the skills to treat pain with the combination of therapeutic alternatives, with the help of a guide on pain management.

Expert Criteria (Delphi Method). To validate the proposal for the combination of therapeutic alternatives for the treatment of pain in primary health care, surveys are applied, the coefficients of knowledge Kc and argumentation Ka are obtained, selecting 15 experts from the Health System, 6 are PhD, 6 Master and 9 Second Degree Specialists among them. The competence coefficient was calculated $K = \frac{1}{2}(K_c + K_a)$. Cortés and Iglesias[7]

Scale for Selection:[8,9]

Expert competence high yes K comp > 0.8

Expert competence medium yes 0.5 < K comp ≤ 0.8

Expert competence low yes K comp ≤ 0.5

All experts are selected with high competence, average K: K = 0.83.

The Delphi method applied in this research made it possible for the selected experts to evaluate the criteria previously elaborated in a certain evaluation category on a Likert scale (Inadequate, Poorly Adequate, Adequate, Fairly Adequate and Very Adequate), in this way the 70 actions or criteria are evaluated by the experts in a meaningful way.

Each expert was given a form with the 70 activities of the proposal to be evaluated and the ranges for the evaluation on the Likert scale mentioned above, and the following steps were applied to the results:

Calculation of the table of observed frequencies

Calculation of the cumulative frequency table

Calculation of the relative cumulative frequency table

Calculation of the cumulative inverse normal frequency table,

Calculation of the average by activities.

Calculation of the N-P table.

The previously established numerical ray is obtained (calculation of the cut-off points) on the Likert scale, for the experts' evaluation.

In the results obtained, it can be observed that all the N-P values for the 70 activities are higher than the cut-off point C4. From this point on, the level of measurement corresponds to: Very Adequate.

$$N = \sum_{i=1}^{m} \sum_{j=1}^{k-1} z_{ij} \quad P = (\sum_{j=1}^{k} z_{ij}) / k - 1$$

Where:

m=15 experts, n=70 non-activities, k=5 Likert scale, zij= Inverse Normal Dist.

See Figure Numerical Ray

The non-parametric Kendall's W test (SPSS V23.0) was applied, selecting a significance level $\alpha = 0.05$ to corroborate the degree of agreement of the experts in the Delphi Method process.

From the result of the table it is inferred that the W Coefficient has a value of 0.833 which evidences that there is concordance among the experts.

Results

Proposal on the combination of therapeutic alternatives for the treatment of pain in Primary Health Care.

General objective: To contribute to the integral treatment of pain in Primary Health Care.

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1- Identify the semiology of the type of pain.
Objective: To identify the semiology elements according to the type of pain.
To obtain the patient's general data.
Systematize the interrogation of the patient with pain, using the ALICIA mnemonic: age, localization, irradiation or spread, character, intensity and attenuation or aggravation.
Use questioning and observation to identify signs and symptoms related to pain: pallor, sweating, fatigue, vomiting, diarrhea, fever, cough.
Identify elements that guide the type of pain according to location, nosiceptic, neuropathic and psychological.
Question the aggravation or attenuation of pain in relation to exertion, posture, cough and food intake, anguish, irritability, palpitations, salivation or dry mouth.
Investigate in case of doubt in the semiological elements according to the type of pain.
Take a psychosocial history of the patient.
Create an affective atmosphere conducive to the doctor-patient relationship through a friendly, courteous and respectful treatment.
Consider the technical requirements established for a correct medical interview (privacy, attention, use of language).
Establish an assertive communication that allows empathy and acceptance.
Use a theoretical and practical method of interrogation in consultation.
2- Determining the intensity of pain
Objective: To determine the intensity of pain with instruments designed for this purpose.
The level of pain in the patient is determined using the numerical pain scale.
Observation of the patient's facial expression.
Record the intensity of pain in the patient's medical history.
Emphasize the patient's expression, language and behavior.
Recognize the subjective component of pain, related to the patient's personality and cultural patterns.
Consider the intensity of pain, according to the instruments applied.
Consider the patient's personality in the communication process with the patient.
During the consultation, empathy should be established with the patient.
3- Pain diagnosis
Objective: to carry out the possible diagnosis in the patient with pain.
Summarize, integrate and analyze all the information obtained through questioning and physical examination of the patient for the conformation of the syndromes present.
Compare the patient's clinical history taking into consideration the preceding contents regarding the patient's health problem.
Establish an adequate characterization of pain, grouping symptoms and signs in different pain syndromes, which allows the pathophysiological interpretation of pain and reach the etiological diagnosis. To evaluate the impact of pain and the role it plays in the overall suffering of the patient.
Use the clinical method, with emphasis on neurological examination, to identify the possible diagnosis.
Determine from the symptoms, signs, physical and complementary examination the syndromic and etiological diagnosis.
Collect the necessary general information aimed at obtaining the symptoms and signs presented by the patient that allow a syndromic and etiological diagnosis of pain.
4- Integral treatment for the combination of therapeutic alternatives.
Objective: To establish a comprehensive treatment of pain by combining different therapeutic alternatives taking into account the type of pain.
Nosiceptive pain
To approach from pharmacology according to the intensity, natural and traditional medicine, (combining it with the 18 emergency points) and psychological care.
In the acute phase, use physical medicine and rehabilitation referring to the use of thermotherapy and psychological care.
In the subacute phase use other elements of physical medicine and rehabilitation such as electro-stimulation, magnetotherapy and ozone therapy.
In the acute phase use coping elements related to relaxation techniques and breathing techniques.
In the chronic phase of pain use psychological care with group techniques and counseling.

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In case of doubt consult the updated bibliography or other colleagues.

Inform the patient of the decisions taken and involve the family member in the therapeutic alternatives.

Maintain a favorable affective climate for communication with the patient.

Delimit from the oriented treatment the behavior to be taken by the patient and his relatives.

The "integral treatment" contemplates non-pharmacological and pharmacological therapeutic measures in the treatment of pain.

Consider the particularities of the patient and the context (availability of resources) in which patient care is provided.

Consider the existence of special situations (pregnancy, breastfeeding, advanced age and associated diseases).

Use the biopsychosocial approach to the health-disease process in the evaluation and selection of integral therapeutic management options.

To consider the application of bioethical principles.

To have adequate facilities for patient care in the on-call department of the polyclinic and medical office.

To have the necessary elements and knowledge for the application of the different therapeutic combinations.

Observe and follow the treatment imposed at the primary care level.

Interrelate with the basic working group of primary health care.

Patients with refractory pain should be referred to the secondary level of care.

Chronic neuropathic pain:

Approach from pharmacology according to recommended first-line drugs (such as lidocaine patch, tricyclics and gabapectinoids), natural and traditional medicine, (using acupuncture and acupressure) and psychological care through group therapy.

In the acute phase, use in the acute phase elements of physical medicine and rehabilitation referring to the use of thermotherapy according to the location of pain and psychological care.

In the subacute phase, use other elements of physical medicine and rehabilitation such as TENS, magnetic therapy, mirror therapy, rehabilitative physical exercises and ozone therapy, as well as acupuncture.

In the acute phase use coping elements related to relaxation techniques and breathing techniques.

In the chronic phase of pain, use psychological care with group techniques and counseling.

Inform the patient of the decisions taken and involve the family member in the therapeutic alternatives.

In case of doubt, consult the updated bibliography or other colleagues.

Maintain a favorable affective climate for communication with the patient, considering his personality.

Delimit from the oriented treatment and the behavior to be taken by the patient and his relatives to comply with it.

To master "integral treatment", which contemplates the existence of both non-pharmacological and pharmacological therapeutic measures in the treatment of pain.

Take into account the particularities of the patient and the context (availability of resources) in which patient care is provided.

Consider the existence of special situations (pregnancy, breastfeeding, advanced age and associated diseases).

To have adequate facilities for patient care in the on-call department of the polyclinic and in the doctor's office for patients with pain.

To have the necessary elements and knowledge for the application of the different therapeutic combinations.

Observe and follow the treatment imposed at the primary care level.

Interrelate with the basic working group of primary care for the integral treatment of pain.

Application of the delphi method

Cutting points table

Cutting Point	Measurement Level	Value
C1	Inadequate	< -3.09
C2	Poorly Adequate	< -3.09
C3	Adequate	(-3.09,-2.31)
C4	Fairly Adequate	(-2.31,-1.27)
C5	Very Adequate	≥ -1.27

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Table Results W Kendal

Ranks	
Not Adequate	1,88
Poorly Adequate	1,88
Adequate	2,78
Fairly Adequate	3,46
Very Adequate	5,00
Test Statistics	
N	70
Kendall's Wa	,833
Chi-Square	233,130
df	4
Asymp.Sig.	,000

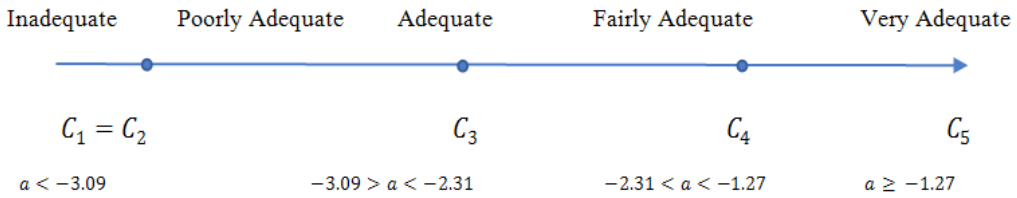

Figure 1 Numerical Ray.

Observation was carried out on 32 physicians selected at random, out of the 42 professionals who make up the sample universe in the medical guards and medical offices of Area I and II of the municipality of Cienfuegos, who were professionally trained with therapeutic refresher courses based on the actions of the proposal. Two observers trained with the proposal were selected, and with the observation guide created for this purpose, they evaluated the performance of practicing physicians in relation to the combination of therapeutic alternatives for the treatment of pain in Primary Health Care.

Results of the observation

Performance showed similar to the most frequent reason for consultation attendance which was low back pain demonstrating that they were able to identify the semiological elements of pain.

Regarding the Psychological approach, 80% of the physicians were able to integrate Psychological elements from the beginning of the attention to the patients with pain, following the sequence of the clinical method.

94 % of them used the tools provided by the proposal to deepen in the semiology of pain.

Ninety-seven percent of them were able to adequately complement the interrogation and physical examination.

All of them determined the intensity of pain and were guided by the proposed actions.

All of them applied the numerical scale in the identification of pain intensity.

In general, all of them used the observation of facial expression, verbal and nonverbal language and behavior.

It is observed how they perform the diagnosis, and all of those observed, adequately perform the syndromic diagnosis, reaching an adequate nosological approach.

They adequately approach pain, considering the type of pain in acute and chronic, also grouping symptoms and signs in different pain syndromes.

They adequately consider the pathophysiological origin of pain.

Determine from the symptoms, signs, physical examination, indication and interpretation of complementary the etiological origin.

They determine the intensity of the pain; they indicate the integral treatment of the pain following the proposed actions. 100% of those observed apply the treatment in a comprehensive manner considering the proposed actions. They consider in the treatment of pain, pharmacological and non-pharmacological contents and combining therapeutic alternatives.

When analyzing the results of the observation, it can be seen that a broad concept of "integral treatment" predominates, which contemplates the existence of both non-pharmacological and pharmacological therapeutic measures in the treatment of acute and chronic pain. They are capable of an integral treatment in relation to the syndromic origin of pain: nociceptive, neuropathic and psychogenic, which is implicit from the beginning of the proposal. It is observed that they were able to combine different therapeutic alternatives, Pharmacological, Psychological, Natural and Traditional Medicine and Physical Medicine and Rehabilitation to the extent of the possible alternatives to be combined depending on the type of pain. A good motivation was appreciated in the activities of improvement to treat pain integrally.

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Discussion

This section considers central elements of the proposal such as: identification of the semiology of pain, determining the intensity of pain, diagnosis of pain and comprehensive treatment for the combination of therapeutic alternatives, the proposal on the combination of therapeutic alternatives for the treatment of pain in Primary Health Care was based on the contribution of the actions to the logic of the clinical method for the comprehensive treatment of pain.

Identifying the semiology of the type of pain

Clinical pain can be divided into two categories, acute pain and chronic pain, being the differences so peculiar between the two, both from the etiological, pathophysiological and therapeutic point of view, that they should be considered as two completely different entities. Acute pain indicates the existence of a tissue lesion, following the activation of nociceptive mechanisms and is therefore considered "useful", since it warns of the existence of a process. If there are no complications, the evolution of the pain will be parallel to that of the lesion that caused it. It is considered a symptom of a disease.[7]

Chronic pain constitutes a nosological entity by itself. The chronification of pain lowers the threshold of excitation and produces psychic modifications that give rise to "pain fixation". It is a "useless" pain, without semiological value and without physiological restorative properties, whose treatment should include three aspects: pharmacological, psychological and rehabilitative. It persists after a reasonable period of time following the resolution of the original process, being of no use to the subject and imposing severe physical, psychological or economic stress on the individual and his family, being also the most frequent cause of disability and constituting a serious problem for society. Chronic pain may itself constitute a disease.[7,8]

Starting from the premise that pain cannot be understood without knowing the person who suffers it, it is necessary to know what aspects influence the experience of pain, and for this, it is necessary to carry out an integral approach, which takes into account an anamnesis directed by means of a semi-structured clinical interview, centered on the patient, and characterized by an evaluative phase with empathy and assertiveness, and a consensus and participatory resolution phase.9 Elements that were contemplated in the proposal. By means of the proposal, the semiological elements were identified according to the type of pain, acute or chronic, considering its syndromic origin: nosiceptic, neuropathic and psychological. In addition, the interrogation of the patient with pain was systematized, using the ALICIA mnemonic: antiquity, localization, irradiation or propagation, character, intensity and attenuation or aggravation. Interrogation and observation were used as a method to identify signs and symptoms accompanying the pain and the aggravation or attenuation was questioned according to the pain in relation to efforts, and the patient's psychosocial history was taken, allowing a comprehensive approach to pain. The experts evaluated as very adequate the activities, objectives and actions that integrate the proposal aimed at identifying the semiology of the type of pain.

Determining pain intensity

Something to keep in mind is that pain is subjective; this means that no one knows better than the patient himself if it hurts and how much it hurts; therefore, we always have to count on the patient when making the pain assessment. But being a subjective and unpleasant emotional sensation, it is very difficult to evaluate it, since there is no objective sign that can accurately measure the intensity of the pain.

In the proposal, the subjective nature of pain is considered, so it is proposed that the tools proposed for its measurement should be used so that the assessment of pain is individualized and as correct as possible for this purpose objective and subjective scales are used.

Contrary to what is generally thought about pain, none of the physical signs such as increased frequency, blood pressure and respiratory rate or changes in facial expression that accompany the painful phenomenon, are considered not to maintain a proportional relationship to the magnitude of pain experienced by the patient but are useful for assessing the intensity of this despite the fact that the attitude that each of them may present to the pain will depend on their personality, culture or psyche.[10] These elements are integrated in the proposal to achieve a determination of pain intensity.

Diagnosis of pain

The anamnesis and examination are the basic pillars to reach a correct diagnosis. A structured and directed pattern should be followed in every interview.[7]

The correct identification of the characteristics and type of pain is the first and essential step to proceed to the design of a strategy that is effective for pain control or eradication.[9]

When exploring the diagnosis and causes of pain in Primary Health Care in the on-call departments of polyclinics and medical offices, it was found in the study that the most frequent causes of consultation were headache, nephritic colic, intercostal neuritis and low back pain. Studies reviewed report postoperative, traumatic, orofacial, dysmenorrhea or headache, colic pain as frequent causes of acute pain.[11]

In the proposal it is possible to establish an adequate characterization of pain, grouping symptoms and signs in different pain syndromes, which allows the pathophysiological interpretation of pain and reach the etiological diagnosis, based on symptoms, signs, physical examination and interpretation of complementary. Use the clinical method, emphasizing the neurological examination.

Integral treatment for the combination of therapeutic alternatives

The combination of different therapeutic alternatives for the treatment of pain has its genesis in the multidisciplinary approach. The proposal structures therapeutic alternatives from Pharmacological, Psychological, Natural and Traditional Medicine and Physical Medicine and Rehabilitation to the extent of the possible alternatives to be combined.

According to the literature reviewed, pain patient care is considered a complex problem that requires adequate updating and a pharmacological and non-pharmacological approach, not only because of its high prevalence but also because of the enormous impact on individuals, organizations and society in general, which is why the balanced and coordinated participation of the two different levels of health care is also necessary.[12,13]

Pharmacological treatment is part of the multidimensional treatment of pain and its aim is to help control pain symptomatology, improving functionality and therefore the patient's quality of life; to this end, different therapeutic targets can be acted upon, always depending on the patient's individual circumstances and safety, assuming that complete analgesia will not always be achieved in all patients.[9]

Analgesic combinations are particularly effective and offer several benefits, including ease of administration, broader spectrum of action,

greater efficacy, improved compliance, and better efficacy/safety ratio. Analgesic combinations are recommended by the World Health Organization (WHO).[14,17]

The proposal aims at the combination of therapeutic alternatives for the treatment of pain in Primary Health Care, by the General Practitioner, taking basic competences from different specialties that contribute to the treatment of pain, without disregarding the other professionals who make up the basic work team and who can contribute harmoniously to the treatment of the patient with pain.

In the studies reviewed, this approach is carried out by means of the multidisciplinary team, defined as the group of professionals with different specific competencies who make different technical contributions, collaborating in an organization with its own methodology, as is the work in Primary Health Care, with the common objective of improving the approach to the patient with pain.[9,18,19]

With the proposal it is possible to combine different alternatives in the treatment, to the pharmacological treatment was added the use of Physical Medicine and Rehabilitation based on thermotherapy in acute pain and the use of other elements such as electrotherapy and magnetotherapy in chronic pain, Natural and Traditional Medicine with the use of acupuncture and ozone therapy, considering whether it is an acute or chronic pain (nosiceptic or neuropathic) in addition the Psychological approach was taken into account from the beginning of the proposal.

Conclusions

The proposal on the combination of therapeutic alternatives for the treatment of pain in Primary Health Care was formed considering therapeutic alternatives from Pharmacological, Psychological, Natural and Traditional Medicine and Physical Medicine and Rehabilitation. The results obtained for all the activities were scientifically validated by Expert Criteria by means of the Delphi Method, and the objectives offered that all the N-P values for the 70 activities are higher than the C4 Cut-off Point. From this point on, the evaluation level corresponds to: Very Adequate.

The proposal was applied in two health areas of the municipality of Cienfuegos, and the performance of the physicians selected and prepared with the proposal on the combination of therapeutic alternatives for the treatment of pain through professional improvement activities was observed. It was possible to verify in the observation that in the treatment of pain, all the professionals observed applied the proposed actions in an integral manner, considering pharmacological and non-pharmacological contents, demonstrating the pertinence of the proposal.

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None.

Conflicts of interest

None.

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