The Role of Outpatient Care Accreditation in Enhancing Foreign Patients’ Perception of Colombian Medical Tourism: A Quasi-experimental Design

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Abstract
This study analyzes whether hospitals accredited by the Joint Commission International in outpatient medical care protocols located in Colombia achieve a higher quality perception from foreign patients compared to others treated in a non-accredited one. A t-test with Welch correction, chi-square test, correlation coefficient of Tau Kendall, pre-test, post-test, complementary questionnaire and a 2 focus groups were used in 178 foreign patients. It was observed that patients treated in accredited hospitals had a higher quality perception than the non-accredited group. However, it was found that an unbalanced application of the 3 variables negatively alters quality judgment. Findings contributes to understanding the Colombian medical tourism in depth using non-conventional instruments.

Keywords
medical tourism, Colombia, outpatients, focus groups, Chi-square distributions, surveys and questionnaires, accreditation

What do we already know about this topic?
We know that limited data about the impact of outpatient medical care protocols accreditation on foreign patients’ quality perception makes it challenging to know Colombian medical tourism in depth.

How does your research contribute to the field?
This research will contribute to identifying an association between Colombian hospitals achieving the accreditation in outpatient medical care protocols by the Joint Commission International and foreign patients’ quality perception.

What are your research’s implications towards theory, practice, or policy?
The present research further directions to understand the Colombian medical tourism market. Also, by utilizing a descriptive-analytical study through a quasi-experimental design based on a pre-test and post-test and a focus group protocol.

Introduction
The limited access to high-quality and affordable medical services within countries has encouraged several patients to seek treatments outside their borders. Insufficient health insurance coverage, high-cost medication, and medical physicians’ shortage in home countries have resulted in foreign purchasing of medical procedures. This dynamic is known as medical tourism.

Patients who need to acquire medical procedures, devices and treatments go to destination countries known to provide care to foreigners. However, patient mobility does not have a

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unique legal framework, which hinders international legal security. One uncertainty lies in the insufficient international consensus on outpatient medical care protocols application. In response, the Joint Commission International (a health accreditation organization) have become a reference in standards to be followed in outpatient care protocols accepted by hospitals and insurance companies in developing countries such as Colombia.

The Joint Commission International outpatient care accreditation is based on the following variables: (1) duration of outpatient consultation, (2) follow-up care, and (3) an understandable explanation from physicians to patients about their medical situation. Colombian accredited hospitals have attracted foreign patients (mostly from the U.S) who are looking for high standard in ambulatory care.

However, the necessity of this study lies in the limited data about the impact of such accreditation on foreign patients’ quality perception difficulting to know Colombian medical tourism in depth. By analyzing such opinions in received outpatient care in accredited and not accredited hospitals according to the 3 variables above its possible to identify perception differences between participants treated. The results of this research are relevant for health services researchers, managers, and policymakers since it exposes the influence of such variables in patients’ quality perception of care.

**New Contribution**

This study associates accredited Colombian hospitals in outpatient medical care with foreign patients’ quality perception. Also, the difference between accredited and non-accredited hospitals in the application of the 3 above variables by a descriptive-analytical study carried out through a quasi-experimental design. This paper contributes to examine the interaction between foreign patients treated in a developing country and their relationships with the local medical-tourism development strategy combining management and economic sciences.

**Literature Review**

**The Role of Outpatient Medical Care Protocols in the Quality of Medical Attention**

Protocols’ reporting is part of physicians’ challenge when applying outpatient medical care to provide high-quality services. A way to achieve a higher understanding of patients’ quality perception is by using standardized protocols and incorporate them into case notes. The vehicles chosen to promote the use of such are critical care routes and the Kingston case notes system based on standardized questionnaires. Outpatient protocols seek to achieve a higher patient’ quality perception based on the 3 above variables.

The following literature review shows the contribution of the variables in enhancing patients’ quality perception in ambulatory care. The limited application of 1 variable negatively affects the perception of quality.

Various authors analyzed whether patients’ perception of time quality is related to the duration of a consultation. According to the authors, although participants were satisfied with the time spent with physicians (high valuation of the above first variable), they declared that physicians did not explain their health situation in “easy” way to understand, so it took more time than they would expect (low valuation of the third variable). Therefore, according to participants, more consultation time does not mean better communication between patients and doctors.

A similar study analyzed factors that affect the duration of external consultations between specialists and their patients in Tabriz, Iran. They found logistical difficulties in moving medical specialists to rural areas which worsened patients’ opinion in the follow-up care (low valuation of the second variable even though participants were satisfied with the consultation time and physicians explanations about their medical situation.

Various authors state that patients’ opinion on the quality of care moves away from reality. According to them is because, at the beginning, patients are not informed about their medical situation in a way they can understand. Assertive communication of doctors and nurses regarding patients’ treatments enhance participants’ quality perception in ambulatory care. A study implemented outpatient care protocols to 29 participants and found that average outpatient care time increased by 22% in 18 months. Participants expressed satisfaction in variable 3. However, they stated that follow-up was limited (low valuation of the second variable) and expressed their wish that their doctors or nurses had followed them in person.

Another study analyzed patients’ opinion regarding the communication between them and their physicians in 3 months. The authors found a positive association between quality perception and physicians use of simple words (high valuation of the third variable). Participants expressed that the use of understandable words gave them a broader picture of their medical situation.

A 2017 study analyzed the application of the 3 variables above in primary medical attention in 4 Joint Commission International-accredited hospitals located in South America. The authors found that time spent in post-ambulatory care increased by 21%, and participants reported greater satisfaction with the second variable after the accreditation. They also indicate that outpatient accreditation contributed to enhancing clinical research protocols ambulatory collected data.

Another study in 2017 associated the use of outpatient care protocols in achieving a more accurate clinical diagnose in 34 patients. It was found that such protocols not only meet the 3 above-mentioned goals, but also help improve specific clinical diagnoses.

A 2019 study used outpatient protocols in clinical trials for 223 participants with anxiety disorders. The authors
found that the use of such in data collection add precision to medical risk assessment and mitigation.\textsuperscript{10}

The literature review presented serves as a source to analyze the relationship between patients’ quality perception in ambulatory care and the variables above contributing to an effective implementation of outpatient protocols. These variables also enhance the chances of hospitals being accredited by the Joint Commission International.

**The Joint Commission International Accreditation as an Enhancer of Colombian Medical Tourism**

According to various authors, approximately 18,010 foreign patients (most from the U.S and Canada) travelled to Colombia looking for outpatient medical care while 1,351 specifically went for aesthetic procedures in 2017.\textsuperscript{5,28} 57,405 Patients looked for wellness procedures acquiring 120,849 medical services.\textsuperscript{30}

Outpatient medical services are in high demand mostly by patients who require post-operative treatments after complex medical procedures and whose health insurance have limited coverage in follow up treatments.\textsuperscript{6,31}

Colombian authorities seek to increase the incoming patients based on the decree 3678 of 2010 called National Policy Productive Transformation and Promotion of Micro, Small and Medium Enterprises: A Public and Private Effort which demand outpatient care accreditation to hospitals and gives tax reliefs to such if they reach high standards in outpatient medical attention. To consolidate the Colombian medical offer in the U.S.\textsuperscript{32,33}

International accreditation in outpatient care facilitates agreements between Colombian hospitals and foreign medical insurance companies that are willing to send their insured to the country, decreasing insurance’ costs of medical services and guaranteeing a similar quality of care compared generally to the U.S.\textsuperscript{34,35}

The Colombian Institute of Technical Standards and Certification surveyed national medical centers to identify which foreign accreditation in outpatient care was the most known in the U.S in examining ambulatory care protocols resulting in the Joint Commission International.\textsuperscript{30,36} This is a non-profit organization that shares standardized practices in quality and patient safety and giving a set of rules to enhance quality performance.\textsuperscript{37,38}

An average accreditation process could take from 18 to 24 months. In 2017 there was 843 hospital accredited in 102 countries. The accreditations’ general basis in outpatient care is based on the 3 above variables.\textsuperscript{39,40}

Five Colombian hospitals have the Joint Commission International accreditation in outpatient care (included in the Hospital Program certification) offering medical services to 64.2% of total foreign patients.\textsuperscript{5} In 2018, outpatient care accreditations achieved were the following: arthroscopy, biopsy, ambulatory surgery, hardware removal (plates and screws), endoscopy, and gastric bypass.

A study from 2019 found that the Joint Commission International accreditation favors hospitals in being recognized as high-quality centers in ambulatory care.\textsuperscript{39} Other sources refer to this accreditation as a useful reference which encourages foreign insurance companies to work with Colombian public and private medical facilities.\textsuperscript{40} This also allows patients and insurance companies to know hospitals’ quality of care in depth.

The above review suggests that Joint Commission International Accreditation is an essential element that determines future alliances between Colombian hospitals and foreign medical insurance companies. Therefore, information about patients’ quality perception who attend accredited and non-accredited hospitals would provide further directions to understand the Colombian medical tourism market.

**Methodology**

This study analyzed the perception of foreign patients in the application of the 3 variables that determine the quality of outpatient care (p. 3) on 6 procedures received in Colombia in 2 hospitals accredited in ambulatory care from the Joint Commission International and one not accredited. It also identifies application differences between hospitals and how patients responded. A descriptive-analytical study was carried out through a quasi-experimental design based on a pre-test and post-test. A random stratified sampling design selected both groups. Also, a focus group was applied in each group of patients to find out the most shared opinions on the hospitals’ effectiveness in applying the 3 variables above, complementing the statistical results with patients’ ideas that were not registered in the questionnaires.

The statistical analysis was carried out with the R software version 3.6.3 (2020-02-29). The qualitative designed section (focus group) is supported in knowing both groups’ impressions on how similar were the received outpatient care protocols compared to their countries of origin. In addition to knowing the role of the portability of their medical insurance in the coverage of care abroad. The results of the quantitative and qualitative sections of the study were combined in a Correlation coefficient of Tau-Kendall between post-test questions and complementary questionnaire. Also, the focus groups served to confirm the impressions of the participants registered in the questionnaires.

Before receiving medical attention, both groups answered a Likert pre-test questionnaire against a scale of 0 to 10 where 0 represents the lowest perception score and 10 the highest regarding their initial expectations on how they would be treated. Participants provided written informed consent on published anonymous information. The assessment shows the expectations of foreign patients from both groups regarding the 3 above variables following the studies cited in the literature review.

The questionnaires were done with the consent of ethical requirements for the use of anonymous information. Once
the procedures ended, both groups retook the questionnaire (post-test) with the same assessment scale and variables. Participants shared their perception of the application the 3 above variables following a focus group protocol.

Demographic information such as gender, age, undergraduate studies, and the city where they receive the ambulatory care were collected before the experiment to assess whether both groups possessed similar characteristics.

The working hypotheses were the following:

H₁: The accredited hospital achieved a better patient’ quality perception in outpatient medical care.
H₂: There is an inverse relationship between the duration of outpatient consultation, and an understandable explanation from physicians to patients about their medical situation in the non-accredited group.

Results

Two separate groups of foreign patients received ambulatory medical procedures for 1 year. The first group of 85 patients underwent outpatient medical care from 2 accredited hospitals located in Bogota while the other 93 received it in a not accredited 1 located in Barranquilla. Participants of this exploratory study were 106 patients from the U.S, 25 from Canada, 22 from Panama, 12 from Ecuador and 13 from other countries. 114 Participants were females between the ages of 28-84, while 64 patients were males between 22 to 87 years of age. The t-test does not show statistically significant differences between the ages (Table 1).

Undergraduate was the highest educational level (52.2%) while the non-accredited hospital received the most patients with 52.2% of whole participants. The Chi-square test did not show significant differences in the gender variable. Participants’ educational level and their country of origin show statistically significant differences between groups (Table 2).

In Table 3, the chi-square test shows statistically significant differences between hospitals and patients who were referred to Colombia by their health insurance. There were variations in the ambulatory medical procedures performed in both groups (Table 3).

Figure 1 shows the number of patients who received outpatient medical procedures in accredited and non-accredited hospitals. Arthroscopy was the most demanded procedure in the accredited clinic and arthroscopy, biopsy, endoscopy, and outpatient surgery were the most performed procedures in the non-accredited group.

In both groups, the Welch correction t-test confirms a similarity in the second and third variable (\( P = .3872 \) and \( .7986 \), respectively) before undergoing the requested medical procedures. The t-test with Welch’s correction also confirms that the first variable is not similar in both groups (\( P < .05 \)). The first and second variables have higher average results in the non-accredited group. In contrast, the third variable is higher in the accredited group (Table 4).
Table 3. Distribution of Sample Variables in Accredited and Non-Accredited Hospitals (Part Two, Chi-Square Test).

| Variables                        | Total | Accredited | Not accredited | Statistics (P-value) |
|----------------------------------|-------|------------|----------------|----------------------|
|                                  | n = 178 (%) | n = 85 (%) | n = 93 (%)     |                      |
| Referred by his/her medical insurance | Yes 86 (48.3) | 85 (100) | 1 (1.1) | 170.1 (<.001) |
|                                  | No 92 (51.7) | 0 (0.0) | 92 (98.9) |                      |
| Outpatient medical procedure     | Arthroscopy 51 (28.7) | 32 (37.6) | 19 (20.4) | 23.354 (<.001) |
|                                  | Biopsy 44 (24.7) | 25 (29.4) | 19 (20.4) |                      |
|                                  | Ambulatory surgery 27 (15.2) | 7 (8.2) | 20 (21.5) |                      |
|                                  | Removal of hardware (plates and screws) 16 (9.0) | 1 (1.2) | 15 (16.1) |                      |

Figure 1. Procedures received in both groups of patients.

Table 4. Comparison of the 3 Variables in the Pre-Test (t-Test with Welch Correction).

| Pre-test variables | Hospitals | Average | Median | Min-Max | Statistics (P-value) |
|--------------------|-----------|---------|--------|---------|----------------------|
|                    |           | Accredited |        | Not accredited |                      |
| DOC                | Accredited | 4.51 (1.23) | 5 | 2-7 | 2.377 (<.05) |
|                    | Not accredited | 5.1 (2.02) | 5 | 0-10 |                      |
| FC                 | Accredited | 4.32 (1.31) | 5 | 1-7 | .867 (.3872) |
|                    | Not accredited | 4.53 (1.88) | 5 | 1-9 |                      |
| UEPPMS             | Accredited | 4.45 (1.30) | 5 | 1-7 | .2555 (.7986) |
|                    | Not accredited | 4.39 (1.81) | 4 | 1-9 |                      |

Welch’s t-test confirms significant differences between accredited and non-accredited hospitals in the first (8.3252, \( P < .001 \)), second (13.781, \( P < .001 \)) and third (7.5958, \( P < .001 \)) variables. Participants who underwent outpatient medical procedures at the non-accredited hospital lowered their perception scores (Table 5).

Figure 2 shows that in the post-test, the scores in the 3 variables were more significant in the accredited group (\( P < .001 \)).

The post-test shows that the accredited group had a positive change in the quality perception of 83.5% compared to the non-accredited group, validating H1 (Figure 3).
The correlation coefficient between the third variable and question 1 below was statistically significant in the non-accredited group, validating H2 ($P < 0.05$) (Table 6).

**Focus Groups Outcomes**

Each group participated in a focus group protocol to share their opinions on patients’ quality perception in 2 sessions of 1 hour each. The most shared ideas are mention below.

The first part began with the presentation of the participants. Sixty-five patients treated in accredited hospitals were from the U.S, 7 from Canada, 10 from Panama, 2 from Ecuador and 1 from other countries. Thirty-three participants underwent arthroscopy, 25 to biopsy, 7 to ambulatory surgery, 1 to hardware removal (plates and screws), and 20 to endoscopy.

All patients treated in accredited hospitals were sent to Colombia by their medical insurance companies. In the non-accredited group, 41 patients were from the U.S, 18 from Canada, 12 from Panama, 10 from Ecuador and 12 from other countries. 19 Participants underwent arthroscopy, 19 to a biopsy, 20 to ambulatory surgery, 15 to hardware removal (plates and screws), 19 to endoscopy and 1 to gastric bypass. One patient was referred by its health insurance company, and 92 without it.

In the second part, participants shared their experiences in patient-doctor communication and time spent in the consultation. All participants treated in accredited hospitals expressed their satisfaction with the attention received since care processes were similar to their country of origin in data collection on their medical background and follow-up care protocols (especially for the U.S and Canadian patients).

The most shared opinions were that “doctors took their time to attend without hurry”, “physicians and nurses spoke excellent English,” “...and they made an effort so we could understand our medical situation with simple words.” Participants who underwent arthroscopy, biopsy and endoscopy expressed their agreement that their medical insurance companies moved them to Colombia because they could carry out tourist activities. They also highlighted that...
Figure 3. Change of patients’ quality perception treated in accredited and non-accredited hospitals.

Table 6. Correlation Coefficient of Tau-Kendall and P-value Between Post-Test and Complementary Questionnaire in the Non-Accredited Group.

| Questions                                                                 | Variable 1  | Variable 2  | Variable 3  |
|---------------------------------------------------------------------------|--------------|--------------|--------------|
| From 0 to 10, where 0 is the lowest perception and 10 the highest,       | τ (P-value)  | τ (P-value)  | τ (P-value)  |
| indicate the extent to which your transfer to Colombia was due to cost    | -.0147 (.8593) | -.0426 (.6078) | .1864 (<.05) |
| savings in your medical care.                                             |              |              |              |
| From 0 to 10, where 0 is the lowest perception and 10 the highest,       |              |              |              |
| indicate the degree to which your arrival to Colombia was due to health   | .0277 (.7307) | .1210 (.1330) | -.0367 (.6497) |
| centers applying similar care protocols.                                  |              |              |              |
| From 0 to 10 where 0 is the lowest perception and 10 the highest,        |              |              |              |
| indicate the estimated of time you consider medical consultation should   | .0706 (.3869) | .0445 (.5849) | -.0946 (.2478) |
| last.                                                                    |              |              |              |

hospitals did well inpatient identifications and handover communication.

Thirty-four patients treated in non-accredited hospital perceived difficulties in patients’ information flow process even though they expressed partial satisfaction with the medical care received. They also shared the idea that explanations given by nurses about the medical procedures to be performed were not clear enough, making them stay longer than they would have liked. According to participants, a longer duration of outpatient consultation does not imply
an understandable explanation from physicians to patients about their medical situation.

It is necessary to strengthen assertive communication between doctors and nurses to improve medical care quality since quality perception is not based solely on care time. This shared idea is like the findings in the literature review that the equitable application of the 3 variables above results in a successful application of outpatient medical care protocols.

Opinions from both groups indicate that participants who attended accredited hospitals were more satisfied with the information flow process, suggesting that accredited hospitals performed better in the communication flow process than the non-accredited one. Aforementioned can be explained by the accreditation’s emphasis on the access and continuity of care. In the third part, participants gave their opinion in the follow-up process before and after outpatient medical procedures were performed. U.S patients who received care at accredited hospitals expressed satisfaction with the follow-up.

All said that there was a physical follow-up immediately after the procedures. Thirty-nine participants expressed their discontent with hospitals’ support in medical visa applications to Colombia (except patients who benefits from Colombian diplomatic accords). Sixty-nine participants treated at the non-accredited hospital expressed that their follow-up was done virtually or by telephone, which they considered insufficient.

The shared ideas from both groups support H1 (patients treated in accredited hospitals had a better-quality perception in ambulatory care) as well as H2 (the inverse relationship between the duration of outpatient consultation, and an understandable explanation from physicians to patients about their medical situation in the non-accredited group).

Discussion

The pre-test and post-test showed a remarkable variation in patients’ quality perception. The results coincided with the findings in the literature review that the equitable application of the 3 above variables impacts the quality perception positively since protocols play an essential role in influencing consumer service evaluations and the selection of destinations beyond cost-saving aspects, especially when patients from developed countries undergo foreign medical procedures for the first time. Quality perception is not based only on 1 of the 3 variables above. Each must be equitably applied to achieve a high quality of medical care. The results and the focus groups indicate that accredited hospitals emphasize in the useful application of the 3 variables. Comparing this study with 1 cited in the literature review,17 in both are found that an understandable communication between physicians, nurses and patients improves the perception of quality in outpatient care, in addition to avoiding more time for medical consultation than is usually required in outpatient protocols. This study complements the results cited in the literature review that the third variable (p. 3) is perceive as less rigorously applied in the non-accredited group. Another study cited in the literature review20 agrees with opinions expressed by the non-accredited group members. In both, the participants expressed their satisfaction with the third variable but questioned the effectiveness of the second variable as they had a little in-person follow-up. Although it cannot be said that accreditation in outpatient care makes accredited entities carry out more physical follow-ups, the accreditation contributes to a better perception of patients about personal medical follow-up.

Obtaining accreditation in outpatient procedures by Colombian hospitals facilitates alliances with foreign insurance companies evidenced in data collection and focus groups where the patients treated in accredited hospitals said that they were send to Colombia for the guarantee that similar care protocols would be applied.

During the post-test application, participants who underwent outpatient medical procedures in accredited hospitals shared the idea that, although accreditation encourages best practices in ambulatory care, many hospitals see it only as a way to attract American patients, belittling other accrediting organizations.

However, data collection and focus groups’ most share ideas show that outpatient care accreditation contributes to foreign patients’ arrival in Colombia, suggesting that foreign insurers, not only from the U.S, rely on the Joint Commission International accreditation as a medical tourism driver. The results are by the study cited in the literature review24 that accreditation by the Joint Commission International means that the patients surveyed report greater satisfaction in the second variable. Unlike the research cited in which the increase in care time by 21% is specified, this study confirms that accreditation in outpatient care has a positive impact on the evaluation of the second variable. Furthermore, the data collected in the questionnaires and the shared ideas in the focus group confirm the reports cited in the second part of the literature review.34,35 Apparently, the country incentives to achieve the accreditation of the International Joint Commission results in more foreign patients arriving referred by their health insurance companies confirmed by them during the filling of the pretest questionnaire.

Nevertheless, a 2019 study criticizes the importance that public entities give to obtaining the Joint Commission International accreditation to meet the requirements of United States insurers exalting that it can negatively affect other medical tourism market niches.40 The idea shared in the focus group that the accreditation of the Joint Commission International benefits more to the American patients referred by their insurers than to other nationalities is consistent with the study mentioned above, which can concentrate the tourist medical offer to a single country.

Also, there is limited medical insurance portability for the care of patients from advanced countries in emerging nations under public insurances. Non-portability of medical
care is the most significant challenge that impedes the provision of foreign health services. Several insurance programs in the U.S that prohibit treatment abroad are one of the reasons why more patients do not engage in Colombian medical tourism. Patients from developed countries might benefit from the international medical offer if portable insurance covers foreign medical procedures and medicines. However, it is unclear how insurance portability would affect home countries. While much research remains to be done on this topic, there are clear arguments in favor of extending insurance benefits internationally.24-30,37

It is important to consider obtaining similar accreditations in outpatient medical care from other healthcare accreditation organizations that contribute to diversifying Colombian medical tourist offer. However, the literature review does not highlight that hospitals consider obtaining other ambulatory care accreditations. May be due to the geographical proximity and purchasing power of U.S patients.

Various authors found that Latin American hospitals which are beginning their accreditation process in outpatient procedures, seek double accreditation, having on the one side, the Joint Commission International-outpatient accreditation for the quality requirements of U.S insurers, and, on the other side, the Canada Accreditation or QHA Trent to venture into the Canadian market. The authors found that, because of the competition between hospitals to attract patients from these 2 countries, there have been initiatives to classify the quality in ambulatory care based on metrics reported by patients.

However, The Joint Commission International accreditation does not imply that all information about medical mishaps is recorded. Even in the more developed countries, with longstanding traditions of quality control, there are few comprehensive ways of fully grasping the extent of medical errors in ambulatory care. Reporting errors will improve the quality of medical care as it will help health professionals to learn lessons from past mistakes. Accredited Colombian hospitals may comply more regular with reporting than developed countries, especially those in which litigation is frequent.

Conclusion

The findings reinforce the idea that accreditation in outpatient medical procedures is a tool that strengthens the expansion of Colombian medical tourism offer linked with foreign patients’ quality perception. It was found that the complementary relationship between the duration of outpatient consultation, and an understandable explanation from physicians to patients about their medical situation based on an assertive communication of physician and nurses, favors the quality perception of Colombian medical tourism offer. The accreditation of the International Joint Commission in ambulatory medical care is an instrument that increases the confidence of foreign patients and insurers in the Colombian medical offer. Although not all patients shared information on how long they expected to remain due to privacy matters, this preliminary study confirms that the national strategy to increase the arrival of foreign patients based on international accreditations positively impacts the target audience.

Authors’ Consent

The aforementioned authors had a unanimous consensus to all processes undertaken towards the paper.

Compliance with Ethical Standards

This paper complied with the ethical standards of the journal.

Declaration of Conflicting Interests

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