A phenomenological study on public school leadership in a hybrid workspace

Mary Grace Teope Frondozo 1,2,∗ and Virgilio Flores Kim Ed.D 2

1 Faculty of Junior High School, Department of Education, Marikina City, Philippines.
2 Department of Graduate School, Far Eastern University Roosevelt, Cainta, Rizal, Philippines.

World Journal of Advanced Research and Reviews, 2022, 16(03), 025–034

Publication history: Received on 17 October 2022; revised on 28 November 2022; accepted on 30 November 2022

Article DOI: https://doi.org/10.30574/wjarr.2022.16.3.1298

Abstract

As a form of adjustment to operational drawbacks set off by the Covid-19 pandemic, Head Teachers or department leaders in Philippine secondary schools resumed work in a hybrid setting. This study delved into the leaders’ experience reporting on-site and supervising remote teams.

The researchers gathered qualitative data and explored it through thematic analysis. As a result, three significant themes emerged, which helped the researchers conclude that the condition influenced the virtual and personal relations of the school leaders. It was also apparent that the circumstances called for the necessary reskilling and upskilling of middle managers, and adaptive measures in leadership and communication could be useful in a hybrid setting.

Keywords: Hybrid Workspace; Alternative Work Arrangements; New Normal Leadership; Virtual Leadership

1. Introduction

As early as 2005, hybrid work was already defined and acknowledged, but it became a prevalent term until the current global catastrophe [1]. In the Philippines, school leadership in a hybrid workspace was adopted through Alternative Work Arrangements where Head Teachers (alternately HTs, department heads, team leaders, or remote leaders) performed their administrative functions online and on-site [2].

Amidst the structural changes, HTs needed to be familiarized with the digital milieu and match their competencies to the current demands [3]. They could not merely re-align what was done before the pandemic since much of their training and practice were no longer suitable [4].

The distinctive experiences of secondary public school department leaders called for additional study and interpretation. Thus, the researchers aimed to investigate the topic further in a stern pursuit to explore the phenomenon.

2. Material and methods

2.1. Participants

A targeted sample of eight (8) participants was purposively selected based on their specific and exclusive knowledge, ability, and inclination to explain the phenomenon [5]. The number of participants is theoretically sufficient for data saturation, or the point in data gathering when new information affects the analysis [6].
The study conducted semi-structured interviews with Head Teachers in leadership positions in secondary public high schools in District I of Marikina City. They also served as team leaders in a hybrid workspace where they oversaw the teachers' academic activities and functioned administratively through involvement in school operations.

2.2. Research Questions
The following overarching questions served as a guide throughout the study:

- What are the experiences of the secondary public-school Head Teachers as leaders in a hybrid workspace?
- What aspects of leadership did the secondary public-school leaders find challenging in a hybrid workspace?
- What practices, as perceived by the participants, create a system of effective leadership in a hybrid workspace?

2.3. Research Instrument
A phenomenological interview was used to gather qualitative data for this paper. It allowed the researchers to comprehend and examine an individual's experience as they lived it within the theoretical framework of phenomenological philosophy [7].

The interview questions, strategically open-ended, were aligned with the Research Questions (RQs). Before the latter was put in the final form, the questions were validated by three doctors of education. The instrument passed the professionals' criterion but included some items essential to the research. It was also pre-tested, which ensured reliability and effectiveness.

2.4. Data Gathering and Analysis
Prior to conducting the study, the researchers sought the permission of the Schools Division Superintendent to hold the research in the schools' division of Marikina City and assist them in communicating with the target participants. After approval was granted, the gathering of data started.

Since quantitative methods typically fail to capture necessitated deep interior reflection and thorough analysis, this study employed an in-depth approach through qualitative phenomenological research design and semi-structured interview [8]. It digs deeper into the human elements of a condition, paying attention to attitude, feelings, and emotions to determine what the experience is, what it means to individuals, and the personal consequences [9].

The interview responses were transcribed and coded following the theme analysis approach and translated into clear and cohesive empirical data. To identify themes within the context of each interview, the researcher manually went through each transcript and got familiarized with the data, assigned initial codes, identified patterns, codes, and associated themes, reviewed themes, defined themes and descriptions, and constructed a report [10].

The researchers used various data collection methods to ensure the data and process validity. Document analysis and unstructured observation were done, which helped cross-verify the primary data gathered from individual interviews.

Each interview with the participant was recorded with appropriate online, verbal, and written consent. The recorded interviews were saved in a secured digital drive for privacy and confidentiality and were deleted after the transcription.

3. Results and discussion
3.1. Participant Demographics
The demographic information of all eight participants is sorted out in Table 1.

The leadership experience of the participants has a computed average of 6.9 years, and they have served as leaders in a hybrid workspace since the onset of the pandemic. The roster included females, one Head Teacher who is single and seven who are married.

The usual online platforms used by the participants were varied; eight utilized Google Meet for virtual consultations and conferences. Other platforms mentioned were Zoom, Microsoft Teams, Messenger, Marikina E-Learning, Email, Google Workspace, and Facebook Group Page.
Table 1 Participant Information

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Civil Status</th>
<th>Leadership Experience</th>
<th>New Normal Leadership Experience</th>
<th>Online Platforms Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Female</td>
<td>Married</td>
<td>5 years</td>
<td>2 years</td>
<td>Google Meet, Zoom, Microsoft Teams</td>
</tr>
<tr>
<td>P2</td>
<td>Female</td>
<td>Married</td>
<td>6 years</td>
<td>2 years</td>
<td>Messenger, Marikina E-Learning, Google Meet, Email</td>
</tr>
<tr>
<td>P3</td>
<td>Female</td>
<td>Single</td>
<td>3 years</td>
<td>2 years</td>
<td>Google Workspace, Google Meet, Messenger</td>
</tr>
<tr>
<td>P4</td>
<td>Female</td>
<td>Married</td>
<td>20 years</td>
<td>2 years</td>
<td>Google Meet, Zoom, Messenger</td>
</tr>
<tr>
<td>P5</td>
<td>Female</td>
<td>Married</td>
<td>7 years</td>
<td>2 years</td>
<td>Zoom, Google Meet, Email</td>
</tr>
<tr>
<td>P6</td>
<td>Female</td>
<td>Married</td>
<td>4 years</td>
<td>2 years</td>
<td>Messenger, FB Group Page, Google Meet</td>
</tr>
<tr>
<td>P7</td>
<td>Female</td>
<td>Married</td>
<td>5 years</td>
<td>2 years</td>
<td>Google Meet, Zoom, Email</td>
</tr>
<tr>
<td>P8</td>
<td>Female</td>
<td>Married</td>
<td>5 years</td>
<td>2 years</td>
<td>Google Meet, Messenger, Email</td>
</tr>
</tbody>
</table>

3.2. Findings and Analysis

Three distinct categories of themes were extracted from the research data, with the first theme having three sub-themes. The second theme has two sub-themes, and the third theme is a single entity. The data gathered collectively point to the paradigm shift, drawbacks, and effective practices as the paramount concerns in the new normal.

The different points of view of the participants were presented in sufficient detail and depth to gauge the accuracy of the analysis. The data were used to illustrate and validate the interpretation. Pertinent words and comments of the participants were quoted [11].

3.2.1. Theme 1: Embracing work arrangement and the paradigm shift

Over the entirety of the interviews, the texts revealed codes like internet connectivity, face-to-face communication, adjustments, and virtual exchange. The terms collectively defined the various elements of the new work arrangement and the shifts in the entire concept and operation. The subjects of modification were work patterns, approaches, tools and resources, and mental and physical health conditions. The idea enveloped the claim that the 21st century expresses constant transformation and disruption that affect the nature of work [12].

Sub-theme 1.1: Changes in work pattern and approach

All eight participants had been Head Teachers even before the Covid-19 pandemic, where they mainly worked at the office. Since they were exposed to traditional practices, most of their responses centered on the changes in their responsibilities as leaders of virtual teams. As middle managers, their job was to receive instructions from the principal and relay them to their respective departments.

In connection, the narratives of P1, P2, P5, and P7 were about information dissemination and assignment delegation. One HT imparted that virtual meetings were set easily through Google Meet or Zoom, and the links were sent to the group chats. The transcript also revealed a perceived change in the availability of the teachers, which affected the timeline of tasks. It was shown in P1’s statement:

“When you clarify something via chat, sometimes it would take a long time before the reply comes because the person is not online.”

Although done online, those undertakings were the usual routinary activities of the HTs and were relevant to overall professional relations. Administrative tasks, which were mostly completed online, had corresponding changes too. Four references noted how report submission and teacher supervision went on.
Through hybrid workspace, the paradigm shift encompassed personal relations as well. Because the HTs were required to report at their respective offices, there was a greater chance of socialization and face-to-face interaction.

P1, P3, P4, P6, P7, and P8 had similar recounts on the upside of physical reporting. The data gathered from them concentrated on exchanging ideas with colleagues, which resulted in collaboration and productivity. P7 remarked that daily tasks like clarifying matters and reports were done efficiently through on-site communication and collaboration. Another respondent looked forward to attending social gatherings. In general, socialization, face-to-face interaction, and collaboration had to do with personal relations, which were highly regarded by the majority of the participants.

Sub-theme 1.1 emphasized the context of the new normal and the corresponding conceptual changes as its effect. Specifically, the Head Teachers needed to act as virtual leaders while reporting onsite. Their virtual leadership generally remained limited to administrative tasks like giving directions and supervising. On the other hand, physical reporting became an avenue for interaction and social relations. This solidified the theory of the Hybrid Work Model (HWM). The model tailored two design principles, relational and transactional exchange. Tasks that involve routine are suitable for transactional exchange and virtual programs. Activities that call for unconstrained interactions are appropriate for the relational exchange in the face-to-face setting [13].

Sub-theme 1.2: Familiarization with tools and resources

One of the significant shifts during the Alternative Work Arrangement implementation was using tools and resources, particularly in the virtual environment. Many interviewees mentioned the urgent need to use digital tools, their features, and their advantages and disadvantages. As the highest in data saturation, all eight participants brought up digital devices and platforms and the internet. Codes like technological convenience, internet setbacks, technical unfamiliarity, and technological tool filled the manual codebook. P2 found the digital platforms quite convenient:

"Through Google Meet or Zoom, I can easily call for meetings with the teachers I am handling. No need to hassle myself with a lot of preparations, right? I will just create a link and send them to the Messenger group chat."

The statement showed the respondent's level of familiarity with the online applications. To support the claim, one interviewee disclosed how they got used to attending virtual meetings, while another mentioned that the reports were often submitted in soft copies online. These are indications of changes in operation and, therefore, in means and devices.

Also, these findings match the participants’ demographic information on the applications and platforms they used during the online exchange. Most of them mentioned Google Meet, Zoom, Messenger, and Email, while others included Marikina E-Learning, Microsoft Teams, FB Group Page, and Google Workspace.

As e-leaders, the head teachers had to technologically upskill and reskill to keep up with the virtual tasks. Familiarization with digital tools and resources, like the internet, computers, Google Meet, Zoom, Google Workspace, and Microsoft Teams, was part and parcel of online leadership. The conformity to that crucial change kept the organization functioning. Thus, the condition qualified the following: (1) The leader's concerns have expanded and are no longer confined to executing learning programs and goals [14]; (2) Educational institutions call for a management style that is capable of envisioning change and development [15], and making new skills and resources in response to unfamiliar systems [16], (3) The modern era must become a challenge for leaders to employ their digital leadership [17], and (4) As hybrid work takes over, and the physical space among organizations widens, the role of the middle managers in the organizations are becoming more significant [18].

Sub-theme 1.3: Effects on mental and physical health conditions

Six out of eight Head Teachers expressed concerns about pandemic-related conditions and anxiety. Most interviewees used public transportation, which made them constantly fear contracting and spreading the virus to family members. P1 had the impression that she was actually infected by Covid-19.

"I think I have been infected once; it is just that I did not undergo swab testing that is why it was not confirmed. But the symptoms I experienced are very much similar to the ones who have contacted the virus."

Aside from Covid-related fears, using technological tools and platforms caused changes in emotions and mental health conditions. P1, P2, P3, P4, and P8 all agreed they experienced digital tension.
Working mothers’ struggles with balancing work and household chores also contributed to mental health changes. P3 expressed that physically reporting to school caused stress because of the transportation fee, the danger of getting late, and finishing house chores. P4 shared her thoughts in detail:

“Since we’ve been at home for a long time, I am used to dividing my time between household chores and work. Now that I am reporting on-site, I have to adjust my time in doing the household chores again.”

However, participants 1, 3, 4, and 8 acknowledged that one of the benefits of on-site reporting is the chance to mingle with friends and colleagues. Face-to-face interaction helped them cope with the stress caused by technology and the pandemic. Participant 4 expressed that “reporting on-site while leading virtually is another challenge for me, but it is enjoyable since I can already see my other workmates and feel that I am not alone at work”. P3 elaborated on the topic, “for me, bonding with them personally is fulfilling. We can laugh together, share our feelings and thoughts and enjoy a meal with them”. In addition, P8’s reflections include: “by working on-site, I had fewer distractions from family members and gadgets, so I can concentrate and focus on my tasks. I have fewer stress”.

Aside from the adjustments in tasks and platforms, the department leaders had to cope with the mental and physical health tolls of digitalization and the pandemic. Commuting with the risk of contracting the virus, coordinating online with the teachers, and balancing work and house chores were just some sources of anxiety and stress. The conditions are parallel to the following: (1) Administrations must be attentive to the probable mental health issues for working women [19], and (2) Hybrid set-ups are exceptionally stressful for middle managers because they follow senior leaders while supervising groups of subordinates [20].

The changes covered varied aspects of leadership and were not limited to administrative tasks. The experiences accommodated the ideas that (1) the 21st-century skills of leaders are shaped by three factors: job-related, organization-related, and leader-related [21], (2) educational models should consider the leadership, flexibility, and mediation of learning in virtual and hybrid environments competencies that are demanded in today’s society [22], and (3) hybrid is not an exclusively two-fold choice between the workplace and home but a workspace which incorporates physical and virtual settings valued equally in accessibility, utilization, and perceived relevance [20].

3.2.2. Theme 2: New normal challenges in leadership and communication

In this study, challenges posed by the digital divide and the barriers to effective communication were found to be relatively empirical. Most of the participants’ stories were aligned with the difficulties they encountered as virtual leaders of agencies struggling with digital skills, tools, and communication. Department heads could no longer employ traditional leadership concepts [23]. They worked through the challenges imposed by virtual coordination.

Sub-theme 2.1: Challenges posed by the digital divide

Internet connection, virtual limitations, coping technologically, and difficulties were some codes that emerged from the meaning units of four participants. Two brought up poor internet connection, while two participants’ accounts fell distinctly on ineffectiveness in manipulating digital tools and devices.

P1, when asked about the usual problem online, acknowledged that there were complications with supervision because of the limits to virtual structure and an unstable internet connection. Those problems resulted in ineffectiveness. P3 stated that internet connectivity and the availability of the teachers during online meetings were quite challenging.

P8 took on the individual skills of teachers and their struggle with digital tasks.

“If there are something to submit it is difficult to consolidate, example the Daily Time Record. Not all teachers are knowledgeable in computer, so they find difficulty attaching their signature that caused delay of submission.”

In contrast, P4 charged it to their lack of necessary skills.

“I am also not that techie when it comes to the equipment especially using the laptop, but I still have to learn because it is essential in the hybrid situation and also the meetings that are happening one after another. It is very stressful for me since I am not that techie.”

The participants acknowledged that having a strong internet connection and learning the basic technical competencies were equally essential in the hybrid situation, and the absence of either one was quite challenging or stressful.
The first new normal challenge, the digital divide, stands in the way of digital transformation for underprivileged schools [24]. It is reasonably applicable in this study where internet connection was taken as the cause of inefficiency and miscommunication. This is comparable to the study which affirmed that the record of problems carried on with technological concerns like the price of virtual communications tools, support, and internet and connectivity issues [25].

Aside from digital tools and the internet, the digital divide includes a lack of the required ability to meet internet standards [26]. This second level of the divide surfaced on the transcripts when several participants admitted that leaders and subordinates lack the technical skills needed in virtual work. The results proved that although most department leaders have decent gadgets, they cannot use them to their full potential, and one way to solve it is to offer professional guidance for them to improve their abilities [27].

Sub-theme 2.2: Barriers to effective communication

Manual coding generated the word clusters social connection, virtual gap, miscommunication, and dissociation. In connection, six interviewees considered breakdown in communication as another challenge in the new normal setup. P1, P3, P4, P5, P7, and P8 pointed out poor internet connection, personal or household concerns, and lack of actual interaction as some of the barriers to effective virtual exchange. P5 shared:

"As a leader, I need to make all the purpose of communicating amongst my team members, thus, when using mainly messaging platforms or calls, the eye contact and facial expressions are missed. A few times, I encountered gaps of communication because of these. Thankfully, everything was patched up when my members and I met in person."

P3 said that technology, the internet, and availability caused communication barriers, but the loss of actual interaction was a greater challenge than those technical difficulties. Another participant shared that dealing with several teachers who could not conform to the duties because of household concerns was challenging since the communication was limited to online platforms. For P8, it was tricky when miscommunication between the teachers caused lapses, misunderstandings, or doubling up on tasks.

Apparently, the heavier challenge was communication, with six participants who mentioned it as ineffective, especially in the virtual space. The latter, described as impersonal and objective, overlapped with the digital divide and truly affected the leaders' administrative tasks and personal relations [28]. The problems attest to the idea that clear communication and reliable technology are necessary to manage virtual teams successfully [29]. Hence, the leaders needed to shape their responses to be more task-motivated or participative [30], depending on the situation and the personalities of the people [31]. The latter, as an approach, accords with the Situational Leadership Theory (SLT).

SLT suggests overseeing an organization where changes in approach constantly happen [32]. Since the participants' communication was highly dependent on disruptions, digital resources, and team skills, the level of readiness of individuals or groups constantly changed. In SLT, readiness pertains to the task-relevant maturity level, which is determined by directing, coaching, supporting, and delegating [33].

In the new normal, it is vital to ensure strong communication and teamwork by (1) comprehending the situation and the characteristics of subordinates; (2) examining the available tools and resources; (3) creating an action plan that takes into account the current situation; and (4) contacting the internal and external ecosystem for assistance [34].

3.2.3. Theme 3: Utilization of effective communication strategies

One indicator of effective communication is achieving goals and objectives [35]. The study participants understood that effective communication was challenging in the virtual setup. It was apparent from the conversations that the digital environment needed them to communicate actively and transparently, conduct regular meetings, and feel at ease using digital tools.

The Head Teachers were asked what practice was useful in the new normal. The common responses comprised of experiences related to effective communication. The transcripts revealed P1, P2, P3, P5, P7, and P8 to contribute to the generation of the theme that emerged. Thus, open communication, regular meeting, transparency, and active communication were common in the manual coding process.

Those codes were all indicative of the system of effective communication styles as the participants' best practices. P1 was certain that creating group chats ensured open communication among teachers, and conducting regular virtual meetings was beneficial for the department. P2 comprehensively shared the practice that helped in the process:
“In communication, adjusting the tone in online interaction helped as well. If there are tasks to be done, they are announced in a professional and polite tone. But as a leader, I make sure to be conversational and friendly in personal messages to build rapport which is quite hard to achieve in an online platform.”

Most responses lean on open and active communication, constant exchange through meetings, and availability. P3 disclosed that in virtual communication, it helps to create group chats, to listen, and to get the consensus of the group. P5 labeled their availability as “call me whenever”, which referred to constant communication for monitoring and follow-up. P7 expressed how open and constant communication through virtual meetings, updating, and availability in responding are vital in a hybrid workspace. P8 believed that active communication through group chats during the official time and conducting necessary meetings were effective.

There were similarities in responses in terms of strategies, including sending important reminders and updates through messenger group chats, organizing meetings, constant monitoring, and building trust and rapport.

Despite the demands and expectations, the study collected data pointing to communication as a tool for creating an effective leadership system in the new organizational normal. Using digital devices, the public school leaders established a virtual team, utilized the most needed resources, and modified the outdated guidelines to adapt to the current structure. This is the very idea of Adaptive Structuration Theory (AST). The theory asserts that leadership and technology impact each other, where group structures are formed by creating norms, achieving cohesiveness, and achieving objectives. Communication, according to AST, is at the heart of this theory, and it is via communication that structure emerges. Communication can also reveal organizational flaws, contributing to team improvement [36].

When the virtual leaders formed their team, they utilized digital resources and started communicating through group chat. A structure or set of rules quickly started to take shape. Problems emerged like intermittent internet connection and miscommunication. The Head Teachers adjusted the rules and adapted a new structure through open and active communication, constant exchange through meetings, and availability. The group retained practical approaches and constantly changed communication tools and structures, which aligns with AST’s principle.

Based on the emerging theme, the current situation of the HTs rejected the hierarchical, top-down leadership [37, 38] and adapted a design that connects leadership throughout the organization [39] through planning regular face-to-face meetings, regular communication, clear communication policies, and fostering positive team spirit which can improve the leader-member connection in the distant setting [40].

3.3. Summary Findings and Analysis

The figure below illustrates the conceptual model based on the empirical findings.

Figure 1 shows situational demands as a driver of the operational shift in public schools, structural changes, and adaptation as the outcome or results. The period of digital innovation and global instability widened the leaders’ duty. They had to embrace the complete form of virtual leadership, which was limited to routinary tasks or transactional exchange. They had to regard the totality of on-site reporting where interaction and social relations or relational exchange have a high chance of bringing out creative stimuli.

With the implementation of this new work arrangement in public schools, several changes were documented. These changes involved work patterns, approaches, tools and resources, and mental and physical health conditions. It was established through the shared experiences that the leaders had to be familiarized with the digital platforms and that mental health is affected by the situation.

However, every paradigm shift is entwined with corresponding challenges. In the experiences of the public-school head teachers of Marikina, the digital divide and virtual communication were the chief concerns. Accordingly, the challenges and demands best fit the conforms of Situational Leadership Theory where managers can control effective communication among subordinates.

To thrive in those challenges pressed by the unforeseeable crisis and digital innovation, high school department leaders adapted and switched from one approach to another in task implementation and communication. Consequently, they altered the instructions and reworked innovative schemes parallel to the conforms of Adaptive Structuration Theory. Through employing effective communication strategies, the leader-member connection in the distant setting became manageable.
4. Conclusions
The emerging themes of the study deliberately stressed the importance of grasping the constructs of leadership and weighing the complexities of the hybrid workspace. It was ascertained that the changes in the workspace and structure gave birth to operational challenges and adaptive practices. It was through those findings that three conclusions were formed. The study established that the setup conformed to the Hybrid Work Model, which categorized virtual interaction as routinary or transactional and office communication as social or relational. In the interviews, the HTs were grateful for the free-flowing on-site communication with their fellow leaders. Socialization helped them manage stress caused by digitalization and the pandemic. On the other hand, their relationship with the virtual teams remained repetitive and monotonous. The findings show that the condition affected the professional and personal relations of the participants, which possibly limited the creative stimuli of the teams.

It was also ascertained that the collected literature and the generated themes identified the challenges of digital transformation. One of the inconveniences was the digital divide which was discovered to be prevalent in developing countries like the Philippines. Furthermore, it was recognized that the gap in technology does not only pertain to the equipment and the internet connectivity issues. It equally involves much-needed 21st-century skills of the Head Teachers and their teams. However, while several studies suggested additional reskilling and upskilling training for principals [27, 41], the literature concerning Head Teachers was limited. Since hierarchical and top-down leadership are not as effective in the virtual platform, having middle managers with slow-paced skills development is considered an organizational drawback. Also, the latter hinders the success of situational leadership since the HTs are the ones who have direct contact with the teachers and who have the responsibility to assess their readiness and professional maturity.

Lastly, the data gathered determined how situational demands brought out various setbacks. But it also collected data identifying effective communication as a practice that created a system in the new organizational normal. It was found that the practices of the Head Teachers and their respective teams complemented the principles of Adaptive Structuration Theory by forming remote groups, employing practically effective digital means, and adjusting the outmoded procedures.

Every institution acknowledges the significance of communication and its critical leadership role. The evidence suggests that looking at the benefits of designing a contingent and adaptive communication plan in a hybrid setting would be
helpful. In an era with constant demands and changes, public schools would benefit from fully embracing digital transformation and the comprehensive communication policies it required.

**Compliance with ethical standards**

**Acknowledgments**

The researchers would wish to express appreciation to Dr. Victor Tabuzo, Dr. Dante Felizardo, Dr. Angelita Sta. Ana, Dr. Mark Ryan Hernandez, Dr. Gemo Parajas, Dr. Carol Erpe, and Dr. Sheryll Gayola, for their assistance and support.

**Disclosure of conflict of interest**

The researchers declare that there are no conflicts of interest in any form.

**Statement of informed consent**

Informed consent was obtained from all individual participants included in the study.

**References**


