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Pandemic Positives: A Mixed Methods Exploration of Global Perspectives

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Abstract

Objectives: The COVID-19 pandemic has caused untoward change, disruption, and stress for all. The pandemic has also sparked innovation, discovery, and positive experiences within communities and people's daily lives. By focusing on the realm of positive changes, we gain the chance to build on these changes in ways that might benefit our communities far beyond the pandemic.

Study objectives: 1) Explore positive personal, professional, and community experiences during the COVID-19 pandemic, 2) Learn from global experiences, and 3) Reflect on the influences of age and gender on positive responses to the pandemic.

Design: We created a 12-question yes/no survey with open-ended responses allowed for yes answers. Data were analyzed using a mixed-methods approach.

Participants: The study population were members of global organizations and consortiums.

Results: Data were collected from 110 persons from 32 countries representing all six World Health Organization regions. Women reported more positive experiences in all categories during COVID than men. The frequency of positive experiences increased with age for all indicators, except for community engagement, personal or professional experiences.

Conclusions: Studying the positive effects of a global pandemic is an important complement to paying attention to negative consequences and may transform the way difficulties are viewed.

Keywords: Appreciative inquiry; COVID-19; Deliberative discourse; Positivity; Resilience

Introduction

The novel Coronavirus 2019 Disease (COVID-19) has spread to almost all countries of the world. The World Health Organization (WHO) declared the state of public health emergency of international concern on January 30, 2020, and announced COVID-19 as a pandemic on March 11, 2020 [1]. This has created a wide diversity of responses varying from nation to nation. It has involved varying levels of collective and individualistic actions and has resulted in universal stress and anxiety about the present and the future. A feature of successful stress management at both the individual and collective levels is enhancing measures of agency/control and exploring constructive hope in building a more positive future than that which seems to be looming. A vacuous hope that "things will work out" is a feature of denial, not a constructive step forward. While the precise positive actions may seem uncertain and elusive at this stage of a complex adaptive process, there are lenses we might adopt that are helpful in both situating the work and beginning to define the path forward [2]. Part of this might be to actively and thoughtfully observe the various responses to the pandemic at various scales throughout the world and to look in particular at those responses that have appeared positive, not only in reducing the disease burden but in addressing the social fissures and inequitable distribution of suffering that are increasingly evident. The current research is to understand better the existence and nature of factors that can enhance the positive and mitigate the negative outcomes. We have chosen the method of appreciative inquiry/strength-based analysis and deliberative dialogue [3]. This seeks to explore examples of seemingly positive responses and understand how they have come about. It is not to deny the existence of highly dysfunctional responses but rather to approach our understanding of them by avoiding finger-pointing and blaming the attendant paralysis of effective action. In the most problematic of situations, something is working, and if we can better understand, why they are working and build upon that, there is strong evidence that outcomes will improve [4].

Positivity, hope, and innovation can mitigate stress, alleviate anxiety, and enhance empathy as well as communication during times of crisis [2,3]. With this research, we hope to provide information on how people worldwide are experiencing personal and professional positivity in education, clinical work, and community health. Innovation in education, technology utilization, access to care, and community engagement has been increasingly documented in the literature during the Global COVID-19 Pandemic [5,6,7]. We have also seen an increase in awareness of healthcare disparities and initiatives to support our vulnerable populations [8]. Additionally, research has demonstrated that a positive focus has been associated with a lower risk of mental health disorder and may be protective for maintaining mental health during the pandemic [9]. However, there has been limited research to date regarding positive personal and community resilience within our healthcare communities.

The COVID-19 pandemic has caused untoward change, disruption, and stress for all, and this has been well documented in the literature. We believe that, amongst other things, the pandemic has sparked innovation, discovery, and positive experiences within communities and people's daily lives. This has been documented within academic centers in individual countries and remarked upon as personal commentaries but has not yet, to our knowledge, been explored from a personal and community perspective on a global level [10,11,12,13,14]. Therefore, we aimed to capture positive experiences during the pandemic and thematically explore global responses of positive personal, professional, and community experiences during the COVID-19 pandemic.

Methods

We used a mixed-methods approach. We created a 12-question survey to learn how people worldwide are coping with the COVID pandemic. ((Table 1): Survey Questions) This survey was designed to capture positive personal, professional, and community experiences with reflections on discovery and innovation. This was accomplished by making the questions yes or no responses with open-ended text for yes responses only. We piloted the survey with volunteer individuals who do not reside in the United States or whose first language was not English to assess readability and understanding. Surveys were distributed via email using the platform Google Surveys and posted on the private platform of the organization, The Network Towards Unity for Health, and where applicable, social media sites and newsletters of four other health professional organizations. The introduction to the online survey contained informed consent information. The survey was active between mid-October 2020 and early December 2020. We grouped countries into regions classified by the WHO [15]. Frequencies are reported to give context to findings.

Study Population

The study population were members of organizations and consortiums that authors belong to, including The Network: Towards Unity for Health (https://thenetworktufh.org/), the International Association for Medical Education (https://amee.org/home), The African Forum for Primary Care (https://afrophc.org/), the Society of Rural Physicians of Canada, and the global health interest group hosted by The Society for Teachers of Family Medicine (www.stfm.org). Excluded populations included those with limited English language ability.

Ethical Considerations

The University of New Mexico Human Research and Review Committee approved the study design (HRRC 20-504). Responding to the survey was voluntary. A consent form was provided in the introduction to the survey. No personally identifiable information was collected.

Data Analysis

AF and ACE inductively encoded initial themes from written responses then categorized and condensed them into themes. When discrepancies occurred, AF and ACE used a consensus process to determine appropriate categorization. We computed frequencies and percentages of responses. We used Fisher's exact tests, logistic regression, and multinomial regression (more than two categories for dependent variables) to compare categorical variables. Statistical significance was set at alpha = 0.05, and analyses were conducted using SAS v9.4 (Table 2).

	Demographic questions of age, gender, and country
Have you h	ad any positive experience(s) in education during COVID (e.g., an innovation)?
Have you had any	y positive experience(s) during COVID with regards to clinical practice, either your own practice or personally?
Is your h	nealth system better prepared for a future pandemic or disaster?
Have you had	any positive experience(s) during COVID with regards to community engagement?
900 1800 1800 1800 1800 1800 1800 1800 1	communities' vulnerabilities or social determinants been addressed in a way that will be sustained after the COVID pandemic?
Were you able to	accomplish a PROFESSIONAL goal during the pandemic that has led to a meaningful and positive purpose in your life?
Were you able to	o accomplish a PERSONAL goal during the pandemic that has led to a meaningful and positive purpose in your life?
What	is the best positive "Lesson Learned" during the pandemic?

Table 1: Survey Questions.

Results

Data were collected from 110 persons from 32 countries representing all six World Health Organization regions. For the question regarding whether their health system was better prepared for a future pandemic or disaster, 34% replied yes (N = 37), 29% replied no (N = 32), 27% maybe (N = 30), and 10% endorsed 'I do not know' (N = 11), data not shown). There were no gender differences for any questions, although women had slightly larger point estimates than men for most categories. Two other questions had a positive association with age group: the likelihood of participants reporting that their health systems are better prepared for a future pandemic or disaster ((Figure 1A), P = 0.006) and vulnerabilities or social determinants were addressed in a sustainable way also increased with age ((Figure 1B), P = 0.002). No statistical differences were seen between age ranges for community engagement, personal or professional experiences.

34	N (Total =110)	Percentage		
Age group (years)				
19 or younger	1	<1		
20-29	24	22		
30-39	19	17 18		
40-49	20			
50-59	23	21		
60-69	19	17		
70-79	4	4		
Gender				
Female	56	51		
Male	54	49		
WHO Regions	33			
African	36	33		
Eastern Mediterranean	6	6		
European	5	4		
Other, Taiwan (Republic of China)	2	2		
South-East Asia	8	7		
The Americas	44	40		
Western Pacific	9	8		

Table 2: Characteristics of survey.

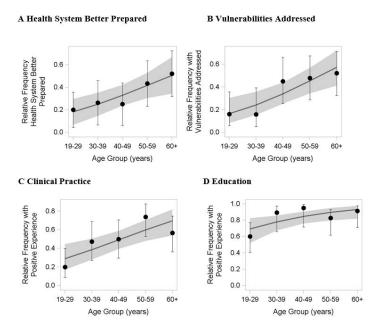


Figure 1: Positive association between age group and relative frequency of positive experiences.

(Figure 1) Positive association between age group and relative frequency of positive experiences in clinical practice ((Figure 1C), $P_{Trend} = 0.002$), education ((Figure 1D), $P_{Trend} = 0.019$), frequency of health system better prepared for a future pandemic ((Figure 1A), P = 0.006) and vulnerabilities addressed in a sustainable way ((Figure 1B), P = 0.002). Trend line and shaded 95% confidence intervals (shaded region and error bars for point estimates) from logistic regression.

Clinical Positives

Overall, 49% reported positive experiences in the clinical realm and the frequency of positive experiences increased with age ((Figure 1C), P = 0.002). Respondents reported renewed commitment to their chosen field as teams were formed, and an abundance of caring was demonstrated in the relationships between team members as well as provider to patient and patient to provider. One respondent remarked, "Patients welcome virtual efforts; they recognize it increases their safety by allowing them to stay home for issues not requiring an in-person visit. They also appreciate the easier accessibility it has provided. And people are concerned that their doctor and staff are well. The expressions of inquiry and concern have been numerous; They want to help keep us safe too" (F, Canada, 60-69 years old). Technology from a provider point of view has been a benefit for elderly persons as more time could be spent listening and for those with chronic conditions because "It meant less time and environmental costs compared to traveling to see a General Practitioner and waiting in the surgery" (F, Australia, 50-59 years old). Technology also allowed for space to deepen relationships as providers could do home visits, "Doing clinical visits by Zoom allows me to take time toward the end of the visit to ask a very fun/special question: "Show me something in your home that is special to you, that represents who you are, and which I would never be able to see in a normal clinic visit" (M, United States, 40-49 years old).

Beyond individual clinic positives, there were beneficial effects on the community, including decreased prevalence of tuberculosis, diarrhea, and respiratory issues due to improved handwashing, distancing, and sanitation. Too, "there, has been a renewed focus on inequalities in healthcare and how racism is a driving force for these. I practice in a community with a long history of racism and there has been a great deal of national attention given to the outsized impact of the pandemic here and the reasons for this" (F, United States, 30-39 years old).

Educational Positives

Positive experiences in education were experienced by 83% (Table 3) and the frequency of positive experiences increased with age for education ((Figure 1B), P = 0.019). Although overall, older participants were significantly more likely to report positive education experiences, for many, the rapid transition from in-person to online learning offered new methods of delivering education to students, patients, and the community, as well as receiving education for personal benefit. New teaching methods were imperative, "We have been supported to develop and try new ways of delivery and pushed to develop skills in an environment where almost everybody felt like a novice" (Female, Australia, 50-59 years old). Some discovered "A renewed sense of purpose" (F, United States, 60-69 years old). Learners themselves had positive experiences with, what was for many, new modalities of learning and practicing, "I'm a university student in Speech and language pathology and COVID made telepractice explode. We had conferences, formations that we would not have had if not for this situation. What's good about this is that regions in our province in which services are hard to get because speech and language pathologists are not present or have long waiting lists can now have access to services way more easily by contacting other bigger regions in telepractice" (F, Canada, 20-29 years old).

All (N = 110)		Female ($N = 56$)		Male(N = 54)		
N Yes	%	N Yes	%	N Yes	%	P-value
54	49	29	52	25	46	0.565
91	83	48	86	43	80	0.399
72	66	36	64	36	67	0.793
80	73	43	77	37	69	0.33
72	66	41	73	31	57	0.081
39	36	23	41	16	30	0.21
	N Yes 54 91 72 80 72	N Yes % 54 49 91 83 72 66 80 73 72 66	N Yes % N Yes 54 49 29 91 83 48 72 66 36 80 73 43 72 66 41	N Yes % N Yes % 54 49 29 52 91 83 48 86 72 66 36 64 80 73 43 77 72 66 41 73	N Yes % N Yes % N Yes 54 49 29 52 25 91 83 48 86 43 72 66 36 64 36 80 73 43 77 37 72 66 41 73 31	N Yes % N Yes % N Yes % 54 49 29 52 25 46 91 83 48 86 43 80 72 66 36 64 36 67 80 73 43 77 37 69 72 66 41 73 31 57

Table 3: Experiences during the COVID-19 pandemic, mid-October 2020 and early December 2020.

Several respondents remarked on the joys of online education in terms of a greater ability to collaborate with others. Working from home allowed more time to exchange ideas and information because travel and in-person meetings were eliminated. For one respondent, "I have found the pandemic a tremendous opportunity to connect people across geographic distances that would be impossible outside of a pandemic. Using the virtual world to connect us to those around the country and world has been a great aspect of the pandemic. Specific examples - our Native Health Initiative did a "Healing Through Justice" summer camp and we were able to attract participants from across the country. Even some of our facilitators were in different states of the USA" (M, United States, 40-49 years old). There was greater access to knowledge during this time period "The frequent use of telemedicine, access to many publications on the subject in a short period of time, access to secure sources of knowledge" Cuba (F, 50-59 years old). This constant exchange of information from anywhere in the world was a positive. Another respondent reflected on the ability to travel and connect "Virtually" "I was able to participate in an online international student exchange. Together with my colleagues from Uganda and Nigeria we were able to share cultural values and published two articles so far on the COVID-19 situation in Uganda and government" (M, Uganda, 30-39 years of age).

Innovations in education also occurred during the pandemic as new opportunities were found to reach a larger community audience. One male respondent in Ireland (60-69 years old) "Created and disseminated a series of 14 brief educational podcasts on a variety of aspects of COVID 19 of relevance to low income countries via Facebook and WhatsApp and used targeted promotion via Facebook to health professionals living near urban centres. Viewership is over 1.9 million views in the continent of Africa and rising". Other innovators "started a virtually facilitated simulation program for rural communities. We present Covid-19 scenarios using a remotely controlled vital signs simulator and zoom" (F, Canada, 50-59 years old).

There was social justice and equity in education as travel fees were eliminated, many online courses were freely accessible, and the transition from workspace to educational space was seamless. A male Canadian (50-59 years old), remarked that "The increase in the use of virtual connections for health services planning has somewhat levelled the playing field for participation for rural communities in these activities. Historically it is more expensive in time and money to get rural people involved in larger macro system dialogue. Although over the last few years in BC there has been an increase in availability for virtual options in meetings. Most of the time this has resulted in most people being in person and then rural people calling in. Even this mitigates against effective rural shaping of policy. COVID has forced us all to be on line virtually which has amplified rural equity and voice in shaping health system change".

Community Engagement Positives

More than one-half of the respondents (N 72, 66%) report having a positive experience during COVID regarding community engagement. More than one-third (N 39, 36%) report their communities' vulnerabilities or social determinants have been addressed in a way that will be sustained after the COVID pandemic. The older age group of 60+ reported positive sustainability (n 12, 52%). In contrast, only 16% (N = 4) of the youngest age group of 19-29 endorsed that sustainability of vulnerability or social determinant interventions after COVID would occur (N 21, 84%, (Figure 1B)).

Vulnerabilities clustered around long-neglected communities and their social and health needs such as 'provision of improved water & sanitation services' (M, South African, 50-59 years of age) 'dramatic policy and service changes to embrace our collective responsibility for rural and Aboriginal health services' (M, Canada, 70-79 years of age). The actions remarked on highlight an improved collective awareness as well as action on addressing inequities. This may result from some governments being more responsive to needs, 'Government learned to react to people's needs more and become more open to constructive criticism' (M, Kazakhstan, 40-49 years of age).

Accomplishment of Professional Goals

Across age spectrums, the ability to accomplish a professional goal during the pandemic was almost three-fourths positive (N 80, 73%) (Table 3). Professional goals were geared towards clinical services such as working towards better preparedness within their health systems for future health crisis and community service such as, 'I was able to connect more with community health in my city by working for the pandemic response helping to mitigate the spread of COVID-19 within our communities experiencing homelessness' (F, United States, 40-49 years of age). Professional goals were also individual pursuits of higher education for a career change 'I have applied MBA online program that I would like to change my professional life' (M, Myanmar, 30-39 years of age). Overall, these professional goals demonstrate pandemic positives of increased social accountability to their professions, communities, and themselves. This is exemplified by the statement, "By solidarity (mobilizing all members of the institution, from leaders to students) to provide concrete help to most vulnerable people. Not just in hospitals but also in the surrounding community. The keyword was: becoming more socially accountable' (M, France, 70-79 years of age).

Accomplishment of Personal Goals

The ability to accomplish a personal goal during the pandemic occurred for more than half of the respondents (N 72, 66%) (Table 3), "I lost 50 pounds by having more time to learn to cook healthier foods and getting more daily exercise" (M, United States, 20-29 years old. Improving personal health by slowing down, re-centering self for a healthier work/life balance, and creative growth were themes found throughout responses to this question. For example, "I have completely forgotten about the personal health and wellbeing during my busy schedule. The pandemic and the slow down help me to take a look at my own health. I started walking regularly, started doing yoga & meditation, practice mindfulness, and dancing too. I feel a lot more healthy and happy"(F, United Arab Emirates, 50-59 years old). There was time to learn about self and family" (F, Ecuador, 40-49 years old). A theme of stronger connectedness to family was prevalent throughout the responses, "...I do feel more connected with my loved ones since the pandemic has forced me to evaluate what is most important to me and how I want to spend my time"(F, United States, 40-49 years old).

Male and female respondents were almost evenly split in reporting whether their health system was better prepared for a future pandemic or disaster, with slightly more than one-third stating yes (N 37, 34%), and almost one-third (N 32, 29%) stating no and the remainder (N 30, 27%) maybe and 10% (N 11) unsure (P = 0.93, Fisher's exact test). The age group of 60+ reported more confidence in their healthcare system (N 12 Yes, 52%) than other age groups. The age range of 19 - 29 reported less confidence than other groups (N 5 Yes, 20%, (Figure 1A)).

Best Positive Lesson Learned

At an individual level, respondents reflected on a newfound ability to slow down and appreciate things previously taken for granted to maintain personal health and wellness. For example, "The importance of family, work-life balance, faith, and connection.. discovering the extent of my personal resilience (M, South Africa, 50-59 years old). The pandemic was also seen as a challenge to embrace, "Make every "barrier" into a challenge, a chance to learn the art of getting over barriers" (M, United States, 40-49). Positives were also found in the ability of systems to change, "there are many things that were always done a certain way before that didn't have to be that way and that systems and people can be very flexible" (F, United States 20 - 29 years old).

The majority of responses reflected the importance of solidarity, connectedness, and working for the common good, recognizing that "humans are more interconnected than we care to admit. Whatever affects one corner of the world eventually affects is all. It's important that we all work towards our common good, as a species" (M, Uganda, 30-39 years old). The world's interconnectedness was the predominant theme, as exemplified by, "If we are together in this, we can definitely bring change and impact in our community" (M, India, 20-29 years old). Examples were given of how this could be achieved, including "To be better aware of health determinants and risks in our society and be ready to mobilize human and technical resources to help most exposed people" (M, France, 70-79 years old) and noting that "Preventive practices are always more effective and cheaper to ensure sustainable community health no matter the health problem" (F, Uganda, 20-29 years old). As a summary, the following quote captures the spirit of lessons learned, "It is within our reach to make fundamental changes to how we live and how society operates to "build back better" and thus create a far more equitable, empathetic, just, and sustainable world (F, United Kingdom, 50-59 years old).

Discussion

This study describes global reflections on the positives experiences during the pandemic. We found innovation and positive experiences in individual lives, the community and within the healthcare system framed within a profound sense of hope for the future. Amongst individuals, a renewed sense of purpose, a focus on what is important within their lives, and simply having additional time and space to pursue meaningful experiences and connect with loved ones by various means were predominant and often led to an improved sense of wellbeing. This is similar to other recent studies that associated positive attitudes, ability to pursue non-work interests, and social connectedness via innovative technologies as protective factors for maintaining mental health during the pandemic [9,16,17,18].

Like other research, interpersonal support and teamwork were remarked upon as necessary by our respondents, which may have contributed to the renewed sense of purpose and commitment to the healthcare profession [19]. Most of the respondents found joy in working from home, as it was easier to collaborate and connect with peers. There was a rapid and unprecedented shift from in-person to online methods for teachers and learners, which, while it forced adaptation, also sparked innovation and approaches to education that may not have otherwise been employed and may reshape health profession education. Interesting education solutions found during the pandemic outside of this study include new pedagogical models, flipped classrooms, adaptive training with simulations, and technology, including videoconferencing and social media [5,20].

Although there were not many clinical positives, virtual care delivery to patients was positive from the patient perspective. They could more easily access services than pre-pandemic times as the need to travel is eliminated. For providers, there was an enhanced ability to connect by "visiting' patients within their own environment." Treatment access for marginalized and vulnerable populations through telehealth provides valuable lessons for how needs can be met and care delivered. There is an increased recognition that these populations and low-resourced communities have been affected the most by the pandemic. Healthcare disparities must be addressed not just during the crisis but in sustainable ways. As one respondent stated about their community, the pandemic forced common sense approaches to complex problems [21]. Positive experiences within the community were abundant, and there was a feeling of connectedness and solidarity from respondents as new partnerships were formed and information shared.

One of our initial hypotheses was this study would highlight age and gender differences in positive responses to the pandemic. For clinical practice, the group 50 - 59 years of age reported more positive experiences than the other age groups. Women reported more positive experiences in almost all categories during COVID than men, but no statistical differences were observed. No statistical differences were seen between gender for positive clinical, educational, community engagement, personal, or professional experiences. Confidence in the health care system's preparedness for future disasters increased significantly with age (Figure 1B), which may signify older persons having more experience and have had time to build resilience with untoward events. Older study participants were also significantly more likely than younger participants to endorse that vulnerabilities had been addressed in a sustainable way, that they had positive educational experiences and positive experiences in their clinical practice (Figure 1D-1C). Other research has found younger person's concerns were greater for others than for themselves [22]. We did not observe this same finding. This may be due to the age spectrum differences in the population surveyed in the two studies.

Limitations

This is an exploratory, not a definitive study, which suggests some intergenerational trends that indicate that factors such as gender do not significantly influence the indicators analyzed. This is an aspect that should be explored in-depth. Another limitation of this study is the relatively small sample size and an unknown N given the wide distribution of the survey. Finally, our study explored only positive experiences, thus we have no way to assess whether or how these positive experiences compare to the obstacles or negative aspects that shaped the experiences overall.

Summary

The COVID-19 pandemic has caused untoward change, disruption, and stress for all. The pandemic has also sparked innovation, discovery, and positive experiences within communities and people's daily lives. By focusing on the realm of positive changes, we gain the chance to build on these changes in ways that might benefit our communities far beyond the pandemic. Study objectives: 1) Explore positive personal, professional, and community experiences during the COVID-19 pandemic, 2) Learn from global experiences, and 3) Reflect on the influences of age and gender on positive responses to the pandemic.

Novelty

The COVID-19 pandemic has caused untoward change, disruption, and stress for all, and this has been well documented in the literature. We believe that, amongst other things, the pandemic has sparked innovation, discovery, and positive experiences within communities and people's daily lives. This has been documented within academic centers in individual countries and remarked upon as personal commentaries but has not yet, to our knowledge, been explored from a personal and community perspective on a global level.

Conclusion

There have been numerous media and research articles on the disruptive, scary, and isolating effect of the pandemic for many. Yet, as our study found, it also sparked innovation, hope, and a feeling of connectedness. Technology can be impersonal, but it can also foster new opportunities for care delivery, teaching, and learning. The ability to slow down and re-connect with what is important can improve mental health and relationships. However, this spirit of positivity that resonates with "we are all in this together" responses should not override that we don't all experience this togetherness in the same way. Vulnerable populations and marginalized communities have increased disparities with COVID. The renewed attention and focus on this must be sustained post-COVID lest we forget the lessons learned within this study.

Studying the positive effects of a global pandemic may transform the way difficulties are viewed and add to a post-pandemic collective memory of this occurrence. There has been collaboration in teams, within and between communities, and on a global level. Future research should examine which innovations have been sustained and best practices for maintaining a collective sense of hope. Although enduring the pandemic has cost us all, our collective community and shared experiences have grown in a way that we can share positivity and unity worldwide through promoting resilience and remaining hopeful for the future. For sometimes, in the times of darkness, light shines brighter, from the ashes blooms blossom more beautifully, and in our suffering, we find unity.

Contributions

ACE led the design of the study, led the analysis and interpretation of the data and the writing of the article.

AF conducted qualitative analysis and contributed to the abstract and discussion sections

JH participated in the design of the study, survey creation and distribution, conducted the literature review.

RM contributed to the design of the survey, acquisition of data, and reviewed the final draft for content.

RW contributed to the design of the survey, acquisition of data, and contributed to the introduction.

XS -- conducted statistical analyses, prepared results tables, wrote methods and results, and reviewed final text.

OM - designed and conducted statistical analyses, prepared tables and figures, wrote methods and results and reviewed final text.

All authors contributed to the analysis, syntheses, writing and editing of the article.

The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted."

Conflict Disclosure

The authors have no conflicts to report.

Data Availability

The data that support the findings of this study are available from the corresponding author, [ACE], upon reasonable request.

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