

Risk perceptions and responses to COVID-19 at a Papua New Guinea University

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Abstract

This study describes initial students-and-staff risk perceptions and responses to COVID-19 at Divine Word University (DWU) along with accounts of the university response to the pandemic. The aim of the study is to generate feedback for university management to shape future responses to the COVID-19 outbreak. Semi-structured interviews and focus group discussions were conducted with staff members and students, together with participants' observations. The study has found that the declaration of the State of Emergency by the PNG government after the first case of COVID-19 in PNG, had a significant psychosocial impact on students and staff. The novelty of COVID-19 produced feelings of risk, widespread fear, and even panic. Participants were fearful not only because of the connection of the virus with death, but they worried about their families getting infected with COVID-19. Both students and staff appreciated the protective measures taken by the university management to restrict movement at the gates while allowing educational activities to continue. Posters with various prevention messages distributed throughout the campus had a moderate impact on protective behavior. However, social distancing, for example, caused conflict between the message and participants' cultural values and norms. The paper concludes with lessons drawn from the findings of the study which includes the need for a university strategy to lessen the effects of fear and sense of isolation likely to accompany further restrictive measures; investigation of how to maintain greater safety and reduce risk situations for students and staff members; and engaging in shaping an environment able to respond positively and deal with the complex challenges of the COVID-19 pandemic.

Key words: COVID-19, risk perception, prevention messages, Papua New Guinea

Background

A pneumonia of unknown etiology, which was later described as coronavirus caused by SARS-COV2 (COVID-19), was first detected in Wuhan in China in late 2019 (Jiang et al., 2020; Lu et al., 2020). The World Health Organization (WHO) declared the COVID-19 outbreak a global pandemic on 11 March 2020 (World Health Organization, 2020). COVID-19 is a respiratory infection with common symptoms such as fever, cough, wheezing, and dyspnea and can lead

to severe acute respiratory syndrome, kidney failure and even death (Chen et al., 2020; Ding et al., 2020; Lake, 2020). The pandemic swept across the globe and, by October 2020, more than 35 million people had become infected, out of which, more than one million people died (European Center for Disease Prevention and Control, 2020).

In Papua New Guinea (PNG), the first COVID-19 positive person was reported on 20 March 2020 (National Department of Health, 2020). A State of Emergency (SoE) was announced with a ban on international and domestic flights, travel restrictions between provinces and a halt to classes in schools and universities. Information, education and communication (IEC) materials were developed and distributed as a mass education campaign throughout the country in order to contain the spread of the virus. Information channels such as television, newspapers and social media were used to disseminate prevention messages (National Department of Health, 2020).

Throughout the world including PNG, the COVID-19 pandemic is unprecedented in the amount of media attention received (Ding et al., 2020; Ioannidis, 2020). The exposure and subjection to negative information from social media may have swayed people's perceptions of the risks and subsequently influenced their behavior (Yildirim & Güler, 2020). However, the influence of the pervasive and popular social media on people's risk perception and health-protective behavior is hard to quantify (Allington et al., 2020). Therefore, understanding people's risk perceptions of COVID-19 is vital to develop effective communication messages for people to adopt preventive health behaviors (Dryhurst et al., 2020).

Previous studies on risk perceptions of emerging infectious diseases such as SARS and avian influenza reveal diverse views and perceptions about risks, hence their compliance to recommended preventive measures differs greatly (Brug et al., 2004; De Zwart et al., 2009; World Health Organization Writing Group, 2006). Recent research on COVID-19 further supports this view, indicating that people's perceptions of risks are multifaceted. Therefore, the motivation to behavior change varies from person to person, places, between countries, cultures, world views, beliefs and social practices (Dryhurst et al., 2020; Yildirim & Güler, 2020).

A growing body of research on risk perceptions of COVID-19 exists. However, most studies were quantitative, in which they focused on the application of various measurement tools such as a coronavirus stress scale (Arslan et al., 2020), fear of COVID-19 scale (Ahorsu et al., 2020), coronavirus anxiety scale (Lee, 2020), COVID-19 phobia scale (Arpaci et al., 2020), and COVID-19 perceived risk scale (Yildirim & Güler, 2020). These measurement tools attempt to establish correlations of various risk perceptions and their associated behaviors (Yildirim & Güler, 2020). While these measurement tools are important, peoples' accounts of risk perceptions in different cultural contexts concerning COVID-19 are important for developing context-specific and culturally appropriate public health interventions.

In addition, the infectiousness of the COVID-19 virus is a threat to universities to provide quality education and safe learning for students (The Lancet Editorial, 2020). According to a United Nations' (UN) (2020) report, about 1.6 billion learners in more than 190 countries were affected due to closure of learning institutions from preschool to the university level. 94% of the world's student population was affected of which 99% live in low- and middle-income countries. (United Nations, 2020). In addition to disrupted face-to-face classes, the pandemic has posed additional challenges at Divine Word University (DWU) in Madang, Papua New Guinea. The University has sought to respond to these challenges by restriction of movement in and out of the campus, temperature checks at the gates, a ban on smoking and chewing betel nut, suspension of face-to face classes for four weeks, and a display of health prevention messages on the campus.

Consequently, a qualitative study was carried out at Divine Word University to explore university staff and students' reaction to the COVID-19 pandemic, their perceptions of risk to COVID-19 infection, and their accounts of the institutional response. The overarching aim of the study is to learn from the experience of response to the virus, and to generate feedback for university management and the wider community to shape future response to the pandemic.

Study design and methods

This paper analyses the data collected during a wider qualitative study analyzing how staff and students theorize health messages concerning COVID-19 and choices made to protect one's health at DWU in Madang, PNG. It describes students' and staff reactions to the COVID-19 pandemic in PNG, their critical evaluation of the DWU management responses to the COVID-19 pandemic and students' perception of risk situations on the campus in Madang. A phenomenological methodology was employed to "engage with the phenomena in our world and make sense of them directly and immediately" (Crotty, 1998, p. 79).

The data was collected through:

- 23 semi-structured in-depth interviews (10 staff – five male, five female, and 13 students – five male, eight female)
- seven focus group discussions (two with staff – nine female, three male and five with students – 17 female, 11 male) along with non-participant observations. All faculties and the administration divisions were purposively selected to ensure a relatively equal representation of female and male staff members and students.

Participants included in the study were all PNG nationals except one student from Solomon Islands.

All authors were involved in data collection between June and September 2020. Question guides for in-depth interviews and focus groups were

developed, pretested and refined. The interview guide included a picture booklet with photos of various prevention messages displayed on campus. These posters were developed by staff and students from the Faculty of Medicine and Health Sciences (FMHS) and student services. During the interviews, participants were asked to reflect on the pictures of the health prevention messages and to point out which one they consider the most applicable to the COVID-19, and which one the least applicable, and why. Interviews ranged in length from thirty minutes to one hour and focus groups between one hour to one-and-a half hours. The research team members were aware of the importance of a reflexive attitude towards the implications of their positions as teaching staff, and in one case senior administration, at the university, and how that might influence the research process and the research-participant relationship (Newbury, 2010).

Interview and focus group responses were recorded and transcribed verbatim. The data were analyzed using thematic analysis (Liamputtong, 2013). All researchers coded the transcripts manually using Microsoft Word. The first author revised and compared the codes, which resulted in a coding structure of themes and sub-themes. Observation data were reviewed and used to triangulate the data. Subsequently a consensus was developed on the coding structure reflecting themes and sub-themes linking to the research objectives through team discussions.¹

Results

Participant perceptions of COVID-19

Fear of the unknown virus

Most of the 51 participating students and staff members stated that they became alarmed upon hearing the news that the COVID-19 pandemic was detected in PNG, followed by the State of Emergency declaration by the Government. Some used terms such as: worried, confused, angry, sad and shocked to describe their feelings. What the participants were afraid of appears to be a mixture of what is known, but also the novelty of the so-called 'novel' virus indicating the fear of the unknown.

The news that the illness came first from China led to the fear of people from other countries, particularly from Asia. Some respondents referred to the presence of a Chinese mining company based in Madang, and that Madang has a number of Asian managed stores. A female student explained how her roommate was angry that an expatriate had brought the virus to PNG. Others said they felt angry at being confined by the restrictions such as closing flights and imposing restrictions on the movements of people, even though they admitted that these were necessary. A female staff commented on her feelings regarding the restrictions as follows:

¹ Ethical approval was obtained by the Faculty of Medicine and Health Sciences Research Committee. Participation was voluntary and written consent was given by participants.

"Why the restrictions? Why are there restrictions? We need to move around. Being in the very confined setting and not having a lot of places to go and all that, I was, like why is this happening that now we're going to be on the campus all the time. So that had some kind of mental..., I could say, depression or something that made me to, like, tell me I would accept that in the next few days, but it kept on going and I couldn't stand it anymore and my body said no. I couldn't take that."

Participants in this study were fearful largely because of the association of the COVID-19 virus with death. A female student referring to television news reports on the situation in hospitals and morgues in places such as Italy and Iran expressed her alarm saying:

"They said, it spreads like flu and everyone who gets it dies within a few days. Yeah, that was my reaction to it that we will die."

Two students and one staff linked fear of the virus with the weak PNG health system. They perceive the health system as unprepared to deal with such a threat. This enhances the fear of death, as a male student pointed out:

"I thought the virus will kill all of us because our health system is very weak and we also do not have the facilities to treat and manage COVID 19."

"I was thinking how many people are going to die due to the fact that we don't have the proper health facilities and all that and if there was lots of people being sick or dying from it. How do we cope with that? So that was the most frightening, scary part of it."

Religious influence

Reference to the virus and petitions for divine protection were commonly heard in prayers normally said to begin activities at the University. However, at least one male student responded from a more radical faith perspective. He said he was not worried because God would protect him and he believed that the corona virus would affect only those who have disobeyed God's commandments.

"My faith in God makes me strong and confident that I did not fear the disease. So I walk around with my friends. That's what I was doing at the time of the lockdown."

He went even further to state that it is sent by God to shame the wicked:

"This disease will not come to me. Because the Lord is with me, what can man do to me? I always believe that this disease is given by God to punish those who sin against his commandments."

A staff member was more philosophical, "whatever happens, happens."

Perceived risk associated with places on campus

Students and staff were asked to identify places on campus that increase their susceptibility to infection with the virus. In the focus groups, all male and female students identified the dormitories as places associated with high risk of becoming infected, mainly due to over-crowding. Not only do students share small rooms, they also use common facilities such as toilets and showers. One female student in a focus group summarized the points as follows:

“We would definitely get positive cases here because of the living conditions.”

The students’ mess was highlighted as another place perceived as high risk. Students stand close to each other in long lines, waiting for their food to be served. A male student explained his perception of the mess as the ‘most at risk place.’ While social distancing is a known prevention measure it is not practiced at the mess. Another male student described students’ behavior in the mess:

“The space inside the mess is small and when students are hungry they don’t care or think about social distancing.”

Male and female students expressed concern about the crowdedness in a number of lecture rooms. Social distancing in these circumstances is not possible and therefore students are at risk of not only contracting the virus but also other respiratory infections. A female student suggested to ease the situation by organizing night classes.

“I think, the university could do something like engaging students in night classes because during the day, we are all crowded in one lecture hall and it’s very hard to control. If we have night classes, it would create an environment that will be in line with the COVID-19 regulations.”

Another place where students feel at risk is the library. Students commented that the library can be very crowded, not all students wear masks, nor is social distancing maintained. One female student complained:

“People are not practicing social distancing. They should leave one seat in the middle [between two occupied seats]. They go in and just pretend to wear a mask and they sit down and remove it.”

In addition, some female students mentioned their fear of touching the surface of desks and computers if they are not cleaned after other students left. This situation causes stress as articulated by a female student in a focus group as follows:

“When you’re going to the library when you want to study, you really worry who has been sitting before. We’re really worried. So you leave the library with so much stress in your head.”

Students were adamant that the university gates and the local bus stops are the most risky locales at the university. When asked to name places where they had seen health messages, they correctly named areas that displayed health posters.

However, the only places they designated as 'safe' from contracting the virus were the campus clinic and for staff - their own homes.

Participant Responses to COVID-19

Family concerns

Family concerns contributed to the anxiety over the situation. Students were looking for phone credit to call home, and several students were troubled by their family at home calling on the phone and telling them that they were worried about them. A female student noted that, "my parents called me every day, sometimes three times a day to check if I am ok."

Some students expressed a sense of loneliness being away from their families in this unprecedented situation. A male student admitted that he missed his family and it caused a lot of anxiety. Later, when he heard that the family was fine he calmed down.

"The word OK is like a medicine to me, where it makes me to be in peace and be patient and wait for another update."

Students and staff were worried about their parents' and elderly relatives' wellbeing. Students expressed a feeling of being lost without them if they get infected with the virus and die.

"Without them we are nothing, we wouldn't be here. So, we were scared about them. What if something is happening to them?"

In addition, a female student said she was scared because her province is near the Indonesian border, which at the time of the focus group discussion had a larger number of cases and community transmission than in PNG, and her people travel there frequently. She went on and shared her concern:

"I don't know if I will go back and see my people again."

With the ban on domestic travel, married students also had to face the situation of being absent from their children. One female student expressed her worry: "My son keeps asking, 'mummy when are you coming home?'"

Day students live with their parents and appear to have less concerns about safety than the students living on campus, yet some students on campus were concerned that day students might bring the infection from outside into the campus.

Difficult decisions - staying or leaving?

Male and female students in focus groups discussed the pros and cons of leaving the university to reunite with their families during these uncertain times. Some students received flight tickets from their parents and left the university while others insisted to remain on campus despite their parents' pleas to return home.

“My family sent me a ticket to go home because during that time there were lots of rumors going around and students got scared and many of them decided to leave school and run away and go back home.”

“I said, I will stay here in DWU. When and until the school close down that’s the time I will come home, if not, I will stay in the school and complete my education. I made my parent agree and they also thank me for taking a bold stand and make such discussion at this crucial time.”

Staff members’ behavioral responses to the situation also varied. One female staff member was so afraid that she took three weeks’ leave and went back to her village. Another lady decided to take her children out of school and started home-schooling. Others took a more constructive approach with one starting to sew masks for the family. One mother shared how she bought bulk food supplies so she was not reliant on the town market or other food outlets.

There was also concern expressed by both staff and students about students who, despite travel bans, went home to other provinces, possibly bringing the virus with them on their return. A male student admitted that:

“We were scared because after the lockdown those students who went home returned and if one of them contracts the virus he could spread the virus very quickly to us.”

During the lockdown, some students absented themselves from social life of the campus through self-isolation in their dormitories, exiting only occasionally for meals.

“We put notices that no one else should come into our dormitory. We cleaned our toilets and showers every night.”

Once classes resumed after the lockdown along with restrictions and prevention rules, one student suggested to have mandatory tests for all members of the DWU community as alluded to in this extract:

“I think it is best that we do test for all the members of the university. Currently we do not know if some people are having the virus or not. It might take some time for the symptoms to show out. So they [DWU] must run testing for all students and staff as well as families of staff and other support staff. Once we know the status of everyone in the community then we will not be too scared or worried. We will know that we are safe and we will settle down and continue our schooling and complete the year.”

In fact, aside from one case, testing has not been available at the university, nor is testing readily available in Madang through the provincial health services.² So, people have had to live with fear of the unknown.

² Nurses at the DWU clinic suspected one case and requested testing through the Provincial Health Authority. When there was no response to their request they took the

‘Good’ fear

Some respondents referred to the response to the lockdown as a ‘good’ fear which brings about positive effects and provides an opportunity for people to ‘act smart’ and ‘defeat’ the disease by following relatively simple preventative measures. While a few lecturers advised all the students to maintain social distancing, wear facemasks and either to wash hands all the time with soap, or to use hand sanitizer, students made a point of stressing the importance of following prevention measures. A male student concluded that:

“The disease will stay but we don’t have to let the disease defeat us, we have to live with it and move on.”

Divine Word University’s responses to COVID-19

Control measures – duty of care

Strict public health prevention measures such as travel restrictions, hand washing, wearing of face masks, social distancing, testing and self-isolation or quarantine have proven to be effective to contain transmission (Anderson et al., 2020; Bell et al., 2004; Ding, et al, 2020). As soon as the SoE was announced, University management purchased personal protective equipment, ordered prevention measures including temperature checks and hand-washing at the gates, restrictions on the number of persons permitted in enclosed spaces, and warnings about social distancing. The University administration posted regular updates on the University intranet and Deans arranged for occasional evening gatherings in the dormitories, with scientific presentations by medical personnel. The University assigned special accommodation for quarantine, built a temporary isolation/control unit on campus, and hired three trained nurses to work at the unit. Mask wearing was introduced only later when recommended by the Controller of the SoE in PNG. From observation, it was found that students and staff initially complied well with the prevention measures, though compliance appeared to weaken over time.

Almost all participants made positive remarks about the restrictions taken by the DWU management following the announcement of the SoE by the Government.³ There were positive comments on the duty of care by the University management to ensure that the restrictions on access to the University campus by ‘outsiders’, meant for the health benefits of the DWU community. This point is summarized by a male student.

“For me, I think it is good. It is like, when we are in school we all belong to one big community and if one member of the community contracts the virus then it is very easy to spread quickly among the rest of us. Therefore, what the school is doing to take some preventative measures to help its community from contracting the virus is an excellent step.”

student to the hospital, which caused a panic there. However, it did mean that the suspect was tested, and the (negative) result came back after waiting for two weeks.

³ The research team acknowledge that they as DWU staff members, including a senior member of staff, conducted the interviews and focus groups; this may have influenced the participants’ willingness to be critical in expressing their views.

Continuity of education

All participants, students and staff commented positively that the University not closing during the lockdown but providing online teaching and learning. The need to adapt to social distancing restrictions at DWU has highlighted genuine eagerness among staff to learn new technological skills to meet a range of learning needs. A lecturer supported the move to online teaching saying that “I personally did not want the academic programs to be interrupted.”

Students noted online learning to be convenient, and learning can take place at students own pace (DWU Teaching Staff, 2020). A male student appreciated access to the Moodle online learning management platform in the dormitories and the support received from the information communication technology (ICT) team.

“The ICT helped us on online learning and everything was on Module so we stayed in our dormitories and updated ourselves with notes and everything on Module. So it was good.”

In addition, two students told how the lockdown gave them more time for study.

“I was able to keep myself safe in my own room for me to have the time, long enough time to complete my assessment tasks and I was so pleased with that lockdown.”

After the first lockdown, especially male students explained their main concern has been the possible interruption of their studies due to the pandemic. They want the lectures to continue but under very strict rules like mandatory wearing of masks, and social distancing while attending classes. However, a student opinion also considered the lecturers to be lazy and not providing lectures during the first lockdown which discouraged the students to pursue their studies.

“One thing I’m concerned is that we must wear masks and attend lectures. We must not let this thing [COVID-19] disturb and affect our studies. It has affected us already in the first lockdown so it must not happen again. In the first lockdown the lecturers were tired or scared and did not come to class and teach us. This also made us tired and lose hope in our school work.”

Feeling safe and secure

A sense of security and safety within the campus was something people experienced during the lockdown, especially when the university tightened up security at the two main gates. A staff member reflected on the health measures carried out by the security guards, which provide a sense of safety:

“The measures in place are good. Also the security checks that were done at the gates – temperature checks, or rangers [security guards] telling people to wash their hands. I really support it because it was all for our safety.”

Staff and students alike commented in favor of the restrictions imposed on people coming from outside into the campus. A female student summarized the discussion,

“I should say that it’s a really good step that the school took to lock down the main campus and then restricted movement of people in and out.”

However, the gates do not provide an impenetrable barrier. Concern was expressed, about outsiders coming into the campus. Several students were worried about non-residential students coming onto the campus each day from Madang town. Other students were of the opinion that the cooks living outside of the school campus and coming in to work in the student mess every day posed a health risk. In a focus group, female students commented on the call by leaders of the Students Representative Council (SRC) that they themselves might take on the task of preparing food at the student mess. However, the senior management did not allow it:

“The students actually volunteered and everyone said ‘yes’, he [senior manager] said ‘no’, you guys should not come, you’re not fit.

The success of the policy depends on its execution, and consistent handling of entry to the campus – including washing hands and temperature checks – may depend on the reliability of the security guards. Ironically, as noted above, students identified the gates as places of high risk.

Frustrations about the restrictions

The Controller of the SoE in PNG ordered that selling, purchasing and transporting of areca nut also known as betelnut was not permitted (Manning, 2020). The University complied with this order but also for health and hygiene reasons included a ban on chewing betel nut and smoking in public on campus. The ban continued after the lifting of the SoE. Some students considered the smoking and betel nut ban as the most difficult restriction. However, they found ways of getting cigarettes and betel nuts into the university campus.

“They were looking for ways to stop us [students] from smoking and chewing! They locked us in and did not allow us to go outside, but, still the students found some ways to get smoke and betel nut into the school.”

Staff members disclosed how the restrictions on movement had a negative psychological impact on their wellbeing. A female staff member revealed the restrictions on movement made her feel as though she was in prison. She felt confined and depressed and that ‘it was too much’ so she told her daughters to play music so they could dance. A female staff member admitted that her perceived loss of personal freedom due to the restriction had a negative emotional effect so that she considered resigning and returning to her village.

“I felt frustrated because, I felt that our freedom was taken away from us and at the personal level. Yeah and in fact, the frustration went to a level where if the lockdown had continued on, I would have like resigned from my work. That’s the last option I had so I wanted to go

home to my village where I can be free. I felt that all the freedom has been taken away."

Risk reduction responses

Health messages on campus

Staff and students talked about the COVID-19 awareness campaign on campus as part of the DWU management response. Some students and staff appreciated the information provided on DWU intranet. Female students valued the talks by a lecturer in their dormitories concerning the pandemic.

In order to ascertain their perceptions of risk on campus, staff members and students were asked to comment on the various posters distributed on campus in different formats, design, layout, and colors, about transmission of the virus and ways of prevention.

Technical comprehension



A number of students and staff members pointed out the key factor of understanding a poster is one clear and simple message which can also be understood by everyone, not only people who understand English. A male student commented positively on the picture ‘social

distancing’ not only that he liked that it was bilingual but also it recommended social distancing of two meters. He noted that ‘WHO recommended one meter distance to avoid contracting COVID-19, however, I love two meter because it’s safer.’

Some participants talked about how the posters placed in central places on campus such as the library helped them understand more about COVID-19. A student pointed out that the poster (right side) shows all prevention measures which should be practiced on a daily basis. She, especially liked “the picture standing one meter



apart from each other giving your back to your friend. One meter apart means social distancing. So I like this one because it explains a bit better on social distancing. I also like the banning of chewing betel nut and smoking.”

However, a staff member commented: “There is too much information at once. What should I read first?”

	CFT COUGH	FEVER	TOURNI NOSE	SORE THROAT	BREATH LESSNESS	HEADACHE	SOFT ACHES	SNEEZE	FATIGUE	DIARRHOEA
COVID -19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FLU	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓
COLD	✓	~	✓	✓	✗	~	✓	✓	✓	✗

✓ FREQUENTLY / SOMETIMES - LITTLE = RARE ✗ NOT

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Some staff members and students commented that a poster should not include many different colors and ticks, which are not self-explanatory but require finding the legend to understand. A staff member pointed out that the poster (on the left) should be easily understood when looking at it from a distance. She explained that “we need a magnifying glass to read”

and recommended “just one picture and two or three big words; that’s how it sends the message.”

Anxiety

Several participants, staff members and students expressed anxiety when responding to the posters, as they became aware of symptoms of the COVID-19 disease. They, in turn, looked out for symptoms in other students to identify positive cases.

“It made some of us paranoid. Very paranoid [laughing]. If someone has a cough and is sneezing, everyone will turn around.”

“It’s scary because then you’re like, okay dry cough, fever so, when I had the cough, I got scared and I made myself feel scared. So for a long time I felt like, what if I have it?”

While one staff member likes the slogan ‘Beware of COVID-19’ a student questioned, which message the poster is communicating. He explained:

“I personally do not understand the photo and the message on the photo is also not clear. Other images they have attached on the board are not very clear. They are very small and people cannot read that information from the distance.”





In the poster on the left, while only COVID-19 is written on the poster, staff and students asked about the meaning of the poster. A staff member assumed the message might be to cough into the elbow but ‘the image looks like someone is closing his or her eyes and the other two figures are also not clear.’

A staff member and a student did not approve a poster with a lot of text with small letters so that ‘I really need to strain my eyes to see what this is.’



There was some concern raised about mixed messaging from the poster on the left.



While one student supported the message of staying at home to prevent the virus from spreading, another student pointed out the reality is different, for example people have to go to crowded markets in order to buy and sell food. The university did not actually close. Were staff actually able to stay at home? A male staff member asked: “How can food move from one place to another? Like the groceries in town, how can we move it from the villages if we stop people from moving to town? That means people have to move it. The truck doesn’t drive itself so people must drive it to town. People have to be with their goods so

they know that this good has been delivered to the market and it is being sold and they can get their money. The movement of people must not be stopped.”

Perceived effect of the messages: behavior change?

Some students in the focus groups commented on the useful information displayed on the posters. The information was considered very helpful and the posters were perceived as a reminder on the various prevention measures.

“But the posters, that was very helpful, there was a lot of information on them. So when I pass the poster I’m reminded that I have to wash my hands. It keeps reminding me every time I pass these posters. Remember to do this, do that.”

A staff member clearly recalled a message near the ATM on campus which reminded him to stay at home when he is not feeling well.

“So I used to see one of the messages down at the ATM where it’s written that, ‘if you have cough or running nose and fever and all these, you have to stay at home’. So that was the message that every time it used to come to my attention when I’m at the ATM. I used to see that message then like okay, if I get sick I’ll stay at home.”

Staff members and students spoke about becoming more conscious of hygiene practices and practiced hand-washing much more frequently than before. In one focus group with female staff all agreed that they have made the practice of washing hands a daily practice. Female students appreciated the demand of hand washing but noted the shortage of water in the girls’ dorm. The inconsistent approach to health matters by staff members and students has also contributed to worries on campus. A female student noted that “in PNG people are not really cautious about their hygiene.” Therefore, she questioned how serious people would be about the protective measures being proposed such as hand-washing, social distancing and wearing of masks. This concern was confirmed by a number of students in interviews and focus groups, who observed that neither students nor lecturers take wearing masks seriously.

“Most people don’t wear a mask; they don’t wear a mask in class. And the lecturers they are not serious, they don’t go hard on them. They just don’t wear a mask.”

While at the initiative of a member of staff, facemasks made and distributed to students, one student pointed out that he did not receive one because “those masks were not enough for most of us first year students.”

The comment above is unfortunate since the female students made 5,157 masks with 3,818 distributed free to DWU students — sufficient for two masks for every student (PNG Education News, 2020). Some students even admitted that they shared masks, which is contrary to the scientific view of the function of masks.

Social distancing was perceived as a foreign concept for most national staff members and students. When a female student was asked if she is practicing social distancing she said,

“I think we don’t really do that, all this, social distancing and so on [including] most of what’s on it [the posters], except sneezing in public.”

For a lecturer, social distancing is not applicable due ‘to the nature of the job’. However, most participants talked about how social distancing runs contrary to PNG culture. Staff members and students referred to cultural practices characterized by hugging, shaking hands, staying closely together in groups since, as a staff member said, in “our society I think we cannot just live by ourselves.”

“Our way of living is not just ‘hi’ and ‘bye’. We have to hug or shake hands and ask how are things going? For us [it] is cultural, Melanesian, our way of life, we can’t just stop it.”

The messages displayed are said also to have adverse effects causing fear and suspicion of other people and motivating one to be extra careful not to be with people. A staff member explained how the messages “made me suspicious and fearful of others.”

“I was looking at people [to see] if they [sic] were practicing that. I was seeing people’s habits and attitudes and it made me even more scared.”

Discussion and conclusion

This study enabled reporting by staff members and students on the SoE declared by the PNG government, the university response, and perceived dimensions of risk situations associated with COVID-19. A finding, which is not surprising, is that the declaration of the SoE had an initial significant psychosocial impact on most participants. The realization of one’s own finite nature resulted in an often highly emotional response causing fear and even panic amongst staff members and students. How the strongly emotional response has moderated over time will be a topic for further research.

In many cases the fear response was connected to people’s personal relationships with family. Although close family ties are important, the degree of stress initially experienced particularly by students due to the separation from family is a notable finding. Their primary fear was not only about themselves but the fear a family member would die in their absence. Individual responses to the risk of contracting the virus differed. Some staff members and students began to isolate themselves, while others took a more cognitive evaluation of risk and started sewing face masks (Loewenstein et al., 2001).

Participants also associate fear with the weak health system and its limited capacity to respond to the crisis. In sharp contrast to this, one male student rejected biomedical reasoning completely, considering himself as a Christian immune to the virus and attributing the pandemic to the evils of a sinful

society. Other staff members prayed in response to the pandemic but did not regard it as a divine punishment.

Gender roles influenced the emotional response and perceived risk to contracting the virus. For parents, both male and female, the fear of COVID-19 is not only connected to biological death but coupled with the worry over children's safety and anxiety about the prospect of leaving children as orphans. Identifying gender roles, if any, during the pandemic, might be a topic for further research.

Our findings show that most staff and students appreciated the protective measures taken by DWU management. The study provides examples of setting boundaries to provide a sense of security and safety to the campus community. This included restricting the movement of people at the gates, implementation of preventive measures such as washing hands, monitoring body temperature at the gate, and wearing of masks. However, at the same time some staff and students perceived restrictions as interfering on their personal freedom, particularly when it meant having to go beyond the boundary of the gates in order to buy cigarettes and betelnut. Furthermore, we have noted inconsistencies in how these measures were applied. Although gates provided safety and security to staff and students, it also contributed to a sense of foreignness. "We all were like strangers," a female student pointed out, after having her temperature monitored while entering the gate.

Searching for a way to inform the DWU community about health prevention messages, resulted in a general education campaign with posters developed and exhibited in key locations throughout the campus. As the information needed to be understood, accepted and applied, it raised questions as to how the uptake of these prevention messages was influenced by emotions and the cultural context (Van den Broucke, 2020). The initial response followed the discovery of the virus in PNG and the SoE, yet in the long run the mass education campaign reached the DWU community and seems to have had a moderate impact. Yet, the reinforcement of an attitude or even change of behavior is much more difficult, especially over time (Baum, 2016).

Many universities around the world provide information and messages on COVID-19 to university members (Hopman et al., 2020). DWU provided its health messaging not only through posters, but also through information on the intranet and presentations by medical personnel in evening dormitory meetings as a means to sharing information on risk and prevention of COVID-19. While it is known that messaging alone cannot change behaviour (Block & Keller, 1995), it provides a measure of protective environment at DWU. Washing of hands at specific locations on campus, wearing face masks in class, no shaking of hands, are examples of behaviour promoted by the messages. However, over time, the retention of the messages and practices began to wane and eventually

faded. A contributing factor is the low official rate of infection throughout PNG, and in particular, no official case of coronavirus infection in Madang.⁴

One of the most widely used theories of behaviour – Health Belief Model – may provide some reasons on the uptake and eventual neglect of health messaging at DWU. The model, in part, points out that people will take action to prevent disease if they regard themselves as susceptible to the condition (perceived susceptibility) and if they believe the disease could have serious consequences (perceived severity) on them (Jones et al., 2015). This seems to have been confirmed in the results of our study.

A number of lessons can be drawn from the accounts of the participants in our study in regard to prevention messages. First, there is evidence that these unidirectional messages may run contrary to cultural values (Fry, 2019). Social distancing was perceived as violating cultural norms and therefore, for the most part was not adopted. Second, in terms of effective COVID-19 messaging, the study highlights that messaging should be attentive to clear, simple, self-explanatory, specific, consistent messages as well as attempting to communicate one message in each poster (Fry, 2019). Such insights are important for those designing messaging in the future. Third, our findings show unintentional effects of COVID-19 messaging through some posters that generated fear. While a certain level of fear might be an important stimulus to adopt protective behavior (Van den Broucke, 2020), some participants developed distrust towards other people assuming that they fail to practice these behaviors. As fear appears as a common response to the pandemic in staff and students, it was a potential motivator to apply some of the messages at least for some time. DWU should rethink how best to deal with the situation of fear, anxiety, and isolation and associated psychological impacts the pandemic has on staff and students.

Living and studying at DWU also means that students reflected on the risks of contracting COVID-19 in relation to their everyday life and interaction with fellow students and staff. The study reveals that students connect their risk perception with places on campus such as the dormitories, the student mess, some classrooms and the library, seen as areas exposed to high risk of infection. Whether this perception is warranted could be questioned because, for example, hand sanitizer was placed at the entrance to the library with the request that students sanitize their hands on entry, and tables in the library were cleaned with a sanitizing solution at the end of each day. The locations identified are places where people congregate suggesting an awareness of how the virus spreads. Infrastructural issues associated with these places as well as practical concerns such the importance of having a dependable water supply to student dorms are important findings of this study. A lesson for DWU management is the importance of investigation into risk reduction strategies to

⁴ As of 23 November, 2020 the cumulative total of COVID-19 infections in PNG is 612, with 7 deaths.

https://covid19.info.gov.pg/files/Situation%20Report/PNG%20COVID-19%20Health%20Situation%20Report%2048%20%282020-11-22%29_FINAL.pdf

diminish student and staff susceptibility to COVID-19 infection at particular places on campus.

In conclusion, the current study on the risk perception to COVID-19 infection by staff and students at DWU reveal the initial fearful feelings, compounded by a sense of isolation from family relations. The restrictions and measures implemented by DWU management helped reduce the perception of risk situations for students and staff. Moreover, while prevention messages increased knowledge on how to protect oneself from the virus, limitations of this communication strategy were uncovered in its effectiveness to motivate sustainable preventive health behaviors. Therefore, the findings of this study point to the importance of developing a healthy university setting in which management, students and staff together engage in shaping an environment that responds positively to COVID-19 related problems and needs. How can this be done more effectively? As a student concluded ‘the disease is here to stay’ and ‘we don’t have to let the disease defeat us, we have to live with it and move on.’

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