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A Pilot Study to Assess the Impact of Aboriginal and Torres Strait Islander Cultural Humility Webinars on Australian Medical School Students

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ABSTRACT

Background: The Aboriginal and Torres Strait Islander Health Curriculum Framework have provided evidence-based support to higher education providers to deliver safe and well-informed cultural humility education. However, there is currently a scarcity of evidence surrounding the efficacy and impact of cultural humility education. This study will contribute to a quality evidence base assessing the impact of cultural humility and responsiveness interventions on Australian medical students.

Methods: A pilot study was conducted following a group of Australian medical students who attended an educational Indigenous Health (IH) culturally responsive webinar. Recruitment was conducted via the webinar hosts' social media pages. One pre-webinar and two post-webinar questionnaires were sent to attendees. To assess participants' retention of information one post-webinar survey was sent out immediately after the webinar and another three months after the webinar. These questionnaires were designed to reflect pre-determined learning objectives for the webinar. A focus group was selected from the pool of participants for a qualitative analysis of the webinar's impact.

Results: 26 participants were included in the final analysis. Most of the participants were clinical students between 18-24 years old who did not identify as Aboriginal and/or Torres Strait Islander. There was an insignificant increase (p=0.196) in mean participant total score from pre-intervention (M=0.45, SD=0.11) to the immediate post-intervention score (M=0.48, SD=0.13). However, stratification based on learning outcomes showed some improvement between pre and immediate post-webinar knowledge for one learning outcome exploring the links between health and education.

Conclusion: There was a significant increase in knowledge and understanding for the learning outcome that explored the links between health and education. We attribute this partly to the engaging and conversational delivery style of the webinar presenters. The importance of facilitators that encourage reflective teaching should not be understated. Our results highlight the unequivocal potential that cultural humility webinars can have on medical students' understanding of the Aboriginal and/or Torres Strait Islander health landscape. This pilot study warrants further research on a larger population.

Key Words: Education; Aboriginal; Indigenous; Webinar; Australia

BACKGROUND

Pervasive systemic racism is a barrier to receiving health care for several Aboriginal and Torres Strait Islander peoples [1]. The importance of culturally safe practice is explicitly recognised by the Medical Board of Australia to prevent racism and improve health outcomes for Aboriginal and Torres Strait Islander peoples [2]. To provide culturally safe practice, medical practi-

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tioners must develop an understanding of the impact that colonisation and wider systemic racism has had on their own biases and prejudices [3]. This involves on going education and reflection throughout the entire career of a medical practitioner and begins in medical school [4]. The Medical Deans of Australia and New Zealand (MDANZ) Indigenous Health Strategy 2021-2025 outlines the education of culturally safe practitioners as a priority area for medical schools throughout Australia and New Zealand. The Aboriginal and Torres Strait Islander Health Curriculum Framework supports this goal by providing evidence based resources to support higher education providers to develop Aboriginal and Torres Strait Islander health curricula [5,6].

Cultural humility education can take many forms. A scoping review undertaken by identified 6 models commonly used in Australian hospitals to deliver cultural humility training. The dominant model identified was 'cultural awareness' which focuses on Indigenous culture as opposed to context specific training for healthcare. Importantly, notes the poor quality of research evaluating the specifics of different training modalities. This conclusion is supported by two systematic reviews [7,8]. Aimed to describe the quality of interventions designed to improve cultural responsiveness in Australia, New Zealand, Canada, and the USA. Studies included in their review were limited by poor study design and inadequate control of confounding. A larger systematic review completed by found inadequacies in methods of measurement when evaluating the effectiveness of cultural responsiveness interventions. They call for use of consistent evaluation approaches to better appraise intervention impact between different cultural responsiveness interventions [9,10].

Despite the paucity of evidence evaluating interventions related to cultural humility, there is ubiquitous recognition that evaluation of cultural awareness training programs is an important part of the process of continual improvement. Identifying strategies and methods of teaching that have greater impact on participants is critical to understand how best to shift the behavior and attitudes of participants. Furthermore, short term evaluation should be supported by long term evaluation to build an understanding of sustained changes in attitudes [11,12]. Establishing a quality evidence base is critical to improve the delivery and impact of cultural humility training in healthcare and medical education. Surveyed the impact on perceptions of cultural safety among medical students at the University of Western Australia (WA). One cohort received minimal teaching related to Aboriginal health while another cohort received extended, self-reflective and small group learning. The latter group indicated a higher level of preparedness to work with Aboriginal people in clinical practice notes that findings from this research have driven improvements in the curriculum at UWA with an aim to develop culturally responsive graduates.

This study aimed to evaluate the impact of an Aboriginal and Torres Strait Islander health educational webinar on Australian medical students' health literacy and cultural humility. Research evaluating the short and long term impact of cultural humility training would be an invaluable part of improving education and teaching to change attitudes and perceptions among healthcare workers. This will prevent racism and improve health outcomes for many Aboriginal and Torres Strait Islander peoples.

METHODS

We conducted a prospective cohort study following a group of Australian medical students who attended an online educational IH cultural humility webinar. The webinar curriculum was developed by the Australian Medical Student Association (AMSA) and the General Practice Student Network (GPSN) in collaboration with members of the Indigenous community and in reference to the Aboriginal and Torres Strait Islander Health Curriculum Framework. The webinar was delivered by members of the Indigenous community using a common online meeting platform.

Our study involved survey questionnaires conducted immediately pre and post-webinar. We also facilitated a semi-structured interview post-webinar with select participants. The pre-webinar survey was distributed at the beginning of the webinar. Post-webinar surveys were sent out immediately after and three month after the webinar to assess knowledge retention. Survey questions were developed to reflect the pre-determined learning objectives (LO) of the webinar (**Table 1**).

Table 1: Learning outcomes explored in the survey questions

Learning Outcomes	Components
Defining the gap and addressing the disparity	Origins of health inequality. The social determinants and impacts.
Lifestyle and resource availability and Aboriginal and Torres Strait Islander health	Learning
Exploring the links between health and education	Self-reflection and why it is important. Beliefs, assumptions and perceptions and the impact on practice. Incorporating cultural humility and responsive into healthcare settings
Preparing for placement within community	What to know before placement. The role and impact of Aboriginal medical services How you can be part of the solution. The importance of empowerment and a strength-based approach.

The semi-structured interview involved three students and was conducted approximately one month after the webinar over an online meeting platform. Participants were selected from volunteers that expressed interest in participating in the semi-structured interview. The duration of the interview was approximately one hour with questions developed to prompt participants to reflect on the positive and negative aspects of the webinar.

Data Collection

Participants completed demographic data and survey question responses through online Google Form submissions. The survey involved 20 multiple choice questions with several options. Options included multiple correct and incorrect responses and participant scores were based on the number of correct responses selected. For the quantitative analysis participant scores were calculated as a percentage based on the number of correct responses selected. To maintain anonymity, investigators were blinded and an independent third party generated

an identification number for each participant to reference in their survey response submissions for retrospective comparison between the pre and post webinar responses. The matching of identification numbers to pre and post-webinar survey responses were conducted by an independent third party to produce a finalized de-identified dataset for analysis by the study authors.

Data Analysis

We analysed data using SPSS. Pre and post-webinar scores were analysed by frequency, mean and standard deviation. A paired t-test was used to compare continuous variables and chi-squared test to compare categorical variables. The semi-structured interview allowed participants to reflect on positive and negative aspects of their experience during the webinar. Common themes were identified as part of this discussion and reported on as part of qualitative data to support other components of the research.

RESULTS

Quantitative Participant Demographics

75 Australian based medical students registered and consented to participate in the study. Of these, 33 participants chose to participate. Due to incomplete responses on the pre and immediate post-webinar surveys, 7 participants were excluded from the study. Therefore, 26 participants were included in the final analysis for the immediate results. All participants were lost to follow-up for the three month survey.

Participant age was stratified in three age groups with most participants aged between 18 and 24 years of age (n=18, 69.2%). 6 participants in the age group of 25-30 (23.1%) and 2 participants in the age group of 31-36 (7.7%). There were 20 female participants (76.9%) and 6 male participants (23.1%). There were 17 clinical participants (65.4%) and 9 pre-clinical participants (34.6%). All the participants identified as Non-Aboriginal or Torres Strait Islander (**Table 2**).

Table 2: Demographic characteristics Table 2: Demographic characteristics

Demographics	Participants in Webinar Survey (n=26)
Age	
18-24	18
25-30	6
31-36	2
Gender	
Female	20
Male	6
Clinical Status	
Pre-Clinical	9
Clinical	17
Identified as Aboriginal and Torres Strait Islander	
Yes	0
No	26

Chi-square analyses were conducted to determine the association between the individual demographic characteristic and survey scores. No significant associations were found between age group and pre-intervention score ($X2(2) \geq 16.972$, $p=0.525$); gender and pre-intervention score ($X2(2) \geq 10.508$, $p=0.311$), or clinical status and pre-intervention score ($X2(2) \geq 8.879$, $p=0.449$). No significant associations were found between age group and immediate post-intervention score ($X2(2) \geq 11.074$, $p=0.805$); gender and immediate post-intervention score ($X2(2) \geq 4.406$, $p=0.819$), and clinical status and immediate post-intervention score ($X2(2) \geq 9.800$, $p=0.279$).

Webinar Efficacy

There was not a statistically significant increase ($p=0.196$) in the total participant's score from pre-intervention ($M=0.45$, $SD=0.11$) to the immediate post-intervention score ($M=0.48$, $SD=0.13$). However, stratification based on learning outcomes demonstrated a significant increase ($p=0.007$) between pre-intervention ($M=0.35$, $SD=0.26$) and post webinar knowledge for the second learning outcome ($M=047$, $SD=0.25$) (**Figure 1**).

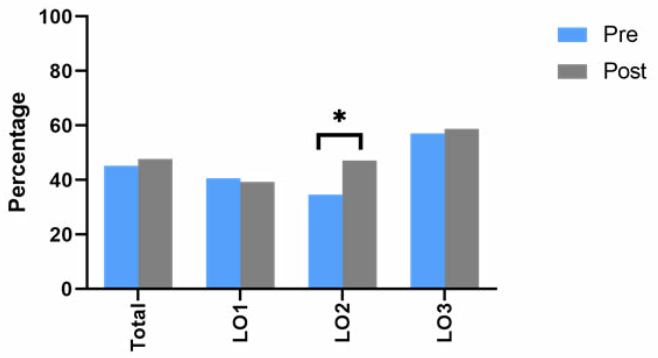

Figure 1: Change in pre- and immediate post-intervention scores for total and stratified by learning outcome. There was a significant difference between pre- and immediate post- survey result when comparing questions related to learning outcome two.

Qualitative

Focus group members reflected on the inconsistency of IH teaching between Australian medical schools. They noted the importance of extracurricular events to supplement their learning in respect to cultural humility.

"My university doesn't do a lot, so I seek out webinars and seminars to get more insight and feel more prepared" "The webinar was very well organized and the speakers had some powerful messages."

"There were a lot of topics to cover and there was a clear outline for the webinar."

The focus group members unanimously agreed that the speakers and their method of presentation was a critical part of the webinar's success. The conversational method of yarning was preferred over more a didactic delivery of learning materials.

"I felt that having several engaging speakers was an important element as it provided alternative perspectives on the topic."

"The key to a webinar is the speakers because it really depends on how the speakers interact and engage with the audience."

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DISCUSSION

There was an insignificant increase between mean pre and immediate post-webinar overall knowledge scores (P=0.196, M=0.45, SD=0.11). There was a significant increase between (p=0.007) mean pre and immediate post intervention score for the second learning outcome. This learning outcome explored the links between health and education and required participants to reflect on beliefs, assumptions, and perceptions to correctly respond to the survey questions.

The webinar facilitators may have had a strong influence on this result and this is an important consideration for future webinars. This sentiment was supported by the qualitative arm of the study with consensus among the participants that the conversational method of yarning was preferred over a more didactic and structured delivery of the curriculum because it promoted greater reflection on personal bias and assumptions.

Previous studies have found that a webinar format of delivery has been generally well-received in the context of medical education [12]. Found that their surgery based webinar was well-received by most attendees observed medical education webinars reaching scores of 4.2 ± 0.7 on the 5-point Likert Scale. However in these cases participant satisfaction may have been related to practicalities as opposed to knowledge gained. For example, the easy accessibility of the webinar and a lack of alternative learning options during the COVID-19 pandemic. Our study demonstrated the efficacy of online webinars for knowledge gained, as well as reaching a largely dispersed audience.

Importantly, our study demonstrated an improved understanding of questions related to Indigenous culture, kinship, and land. For example, "What are the core aspects of Aboriginal and Torres Strait Islander kinship?" and "In what ways has Aboriginal care been impacted by the beliefs, assumptions and perceptions held by health professionals?"

Limitations

Recruitment of participants for the qualitative study arm was done on a voluntary basis and therefore the qualitative cohort was not necessarily representative of all webinar attendees. Participants with greater interest in the webinar content were more likely to attend and those who had enjoyed a positive webinar experience may have been more encouraged to further lend their time to the study.

IH education varies widely between medical schools and year of study and participants may have come to the webinar with widely varied knowledge and understanding. Future studies should consider this cohort variability and recruit participants based on their current level of understanding and learning expectations.

Sample size was a significant limitation for our study. Loss to follow-up of all participants at three months post the intervention prevented an analysis of knowledge retention over a longer period. Recruitment of a larger cohort would allow greater scope for data collection and analyse to identify specific elements of the intervention that had the greatest impact on participant knowledge and understanding.

The survey questions were developed to directly reflect the content of the webinar curriculum and allow accurate analysis of the intervention. This could have been made clearer to participants at the beginning of the webinar as the presentations allowed for individual participant interpretation.

Strengths

The inexpensive cost and simple methodology of our study present as key strengths. The project was led entirely by Australian medical students with diverse experience and a common motivation to improve IH education. The study used freely available online resources for survey, webinar delivery and data analyse. The studies mixed methods approach combined quantitative analysis with a qualitative interview providing a nuanced picture of webinar impact.

The curriculum of our webinar was based on the Aboriginal and Torres Strait Islander Health Curriculum Framework allowing for our findings to be more relevant and tailored to the national IH agenda. Furthermore, we collaborated extensively with several members of the Indigenous community, including medical students and doctors, to ensure the highest level of cultural sensitivity throughout our project.

Recommendations

Our results suggest that online webinars may be an effective platform for the delivery of culturally sensitive discussions. Our qualitative analysis suggested that student engagement and interaction was significantly greater with the more flexible and personable style of conversational yarning. Clinical yarning has been described as an effective method of developing a therapeutic relationship with Indigenous patients. Our results suggest that yarning may be an effective method for teaching medical students about abstract elements of cultural humility such as self-reflection and bias.

Future empirical studies should build upon this finding to replicate these findings across a larger sample size. A significant consideration in the delivery of IH education is the participation and representation of Indigenous people. The lived experience of the Indigenous facilitators was discussed by the authors as a critically important element of the webinar and method of delivery. Our pilot study has demonstrated how the encouragement and facilitation of reflective learning can improve the knowledge and understanding of Australian medical students about Indigenous kinship, culture, and land. Insights from this study support a mandate for increased participation of Indigenous people in the development and delivery of IH teaching.

CONCLUSION

This study used quantitative and qualitative methods to demonstrate the efficacy of an Aboriginal and Torres Strait Islander cultural humility webinar on the knowledge and understand-

ing of a small cohort of Australian medical students. We found a significant improvement in medical student knowledge and understanding about Aboriginal and/or Torres Strait Islander kinship, culture and land after attending an online IH webinar. The importance of confident and engaging webinar facilitators in the delivery of IH webinars should not be understated and was identified by our study as an important element. Students' preference for a conversational method of teaching over traditional didactic methods of curricula delivery is a critically important consideration when designing future IH education webinars.

This pilot study warrants further empirical research studying the impact of cultural humility webinars on Australian medical students. A comprehensive understanding of IH cultural humility among Australian medical students is vital to improve cultural humility within the Australian health system. Importantly, students must be self-aware about the impact of their beliefs and assumptions on interactions with Aboriginal and/or Torres Strait Islander peoples. Further research in this space is needed to develop and standardise IH curriculum and ensure all Australian medical students graduate as culturally reflective practitioners.

ETHICS APPROVAL

The project was reviewed by the Bond University Human Research Ethics Committee and granted approval to proceed on the 21st of February 2022. The project was assessed as meeting the requirements of the National Statement on Ethical Conduct in Human Research (2007, updated 2018). The project was designated reference number SR00253 by the assessing committee.

CONSENT TO PARTICIPATE

Informed consent for participation was obtained from all study participants. Plain language statements and records of written consent from participants are available from the corresponding author on reasonable request.

AVAILABILITY OF DATA AND MATERIALS

The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

COMPETING INTERESTS

The authors declare that they have no competing interests.

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Not applicable.

AUTHORS' CONTRIBUTIONS

All authors had the idea for the study. SS analysed the data. All authors discussed the findings and drafted the paper. All authors read and approved the final manuscript.

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AUTHORS' INFORMATION

Lucy May Schulz identifies as a first nations person.

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