

COMMENTARY

Volume 14 Issue 4 2022

DOI: 10.21315/eimj2022.14.4.10

ARTICLE INFO

Received: 14-06-2022

Accepted: 20-07-2022

Online: 27-12-2022

Anatomy Outreach Through the World Anatomy Day Celebration in Universiti Sains Malaysia

Anna Alicia Simok, Siti Nurma Hanim Hadie, Zul Izhar Mohd Ismail, Mohd Asnizam Asari, Fazlina Kasim, Nurul Aiman Mohd Yusof, Shamsi Amalina Shamsuddin, Mohamad Syabil Ikhwan Mohd Amin, Siti Fatimah Mukhtar

Department of Anatomy, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, MALAYSIA

To cite this article: Simok AA, Hadie SNH, Mohd Ismail ZI, Asari MA, Kasim F, Mohd Yusof NA, Shamsuddin SA, Mohd Amin MSI, Mukhtar SF. Anatomy outreach through the world anatomy day celebration in Universiti Sains Malaysia. *Education in Medicine Journal*. 2022;14(4):113–120. <https://doi.org/10.21315/eimj2022.14.4.10>

To link to this article: <https://doi.org/10.21315/eimj2022.14.4.10>

ABSTRACT

Anatomy literacy among the medical community and general public appears to be declining, so the demand to create awareness of the importance of anatomy knowledge is increasing. The World Anatomy Day (WAD) celebration was launched in 2019 to acknowledge and advertise the importance of anatomy knowledge in the medical field. The Department of Anatomy in the School of Medical Sciences at Universiti Sains Malaysia took the initiative by organising WAD events before and during the COVID-19 pandemic. Prior to the COVID-19 restrictions, WAD had been celebrated as a live event by the lecturers and students who were gathered at the Anatomy Museum. During the pandemic, however, the event was hosted via an online platform. This commentary describes the benefits and challenges of this outreach for the stakeholders of anatomy education and the implications of the WAD celebration on anatomical sciences education.

Keywords: *World Anatomy Day, Pandemic, Experience, Challenges, Suggestion*

CORRESPONDING AUTHOR

Siti Fatimah Mukhtar, Department of Anatomy, School of Medical Sciences, Health Campus, Universiti Sains Malaysia, Kubang Kerian, 16150 Kota Bharu, Kelantan, Malaysia

E-mail: sitifatimahmukhtar@usm.my

INTRODUCTION

Anatomy knowledge is vital in scientific discipline as it is the prerequisite for understanding all medical subjects, including diseases (1). Unfortunately, anatomical knowledge is declining among medical students and graduates, which could affect the patient safety in day-to-day clinical practice (2). Indeed, surgical errors and medical negligence related to anatomy knowledge have been reported in medicolegal litigation (3).

Awareness of basic anatomy is also important for the general public as it can help people better understand the health information and decision-making regarding their treatment (4). Studies have shown that anatomy literacy among the general public is low as many individuals are unaware of their body structures and functions, which consequently affects the efficacy of health campaigns (4). It has been argued that health campaigns would be more effective if anatomy content were conveyed to

the general public via diverse platforms, including educational programmes at schools. Nevertheless, general public outreach on anatomy knowledge can be a challenging task due to the use of scientific terms by medical professionals and the lack of relevant resources that are suitable for general public (5–6). Accordingly, there is a pressing need to provide basic anatomy literacy to the public in the interest of their health.

In light of these challenges, the International Federation of Associations of Anatomists (IFAA) General Assembly announced the launch of World Anatomy Day (WAD) in August 2019 in London and declared that October 15 each year would be commemorated as WAD. The date marks the commemoration of the death of the modern founder of human anatomy, Andreas Vesalius, in 1564. WAD aims to celebrate the development of anatomy and the importance of anatomy in science and medicine around the world (7). WAD also provides a platform for anatomists globally to create awareness and interest among the public through various events, such as departmental open days, national media, press events and public lectures. We welcomed the announcement by the IFAA by organising the first WAD celebrations at the Universiti Sains Malaysia (USM) Health Campus in 2019.

WAD AT USM BEFORE THE COVID-19 PANDEMIC

The entire staff of the Department of Anatomy in the School of Medical Sciences at USM was enthusiastic about the first-ever WAD event and has proposed a range of interesting initiatives. We decided to hold the event at the Anatomy Museum to promote this facility. It took the form of a one-day event to allow lecturers,

staff, students and the public to take part at their convenience. The organising committee prepared a few activities for the undergraduate medical students, namely, the Anatomical Crossword Puzzle, Amazing Race and Kahoot! Games as shown in Figure 1. These activities aimed to allow our undergraduate students to play and learn about anatomy in a memorable way. The lecturers, staff and the public mainly participated in the Dream Wheel and Assemble the Model activities as portrayed in Figure 2. Figure 3 shows the newly set-up Anatomy Learning Space, which was inaugurated by the representative from Malaysian Anatomical Association during the event. To cater to the needs of the postgraduate students who had queries regarding anatomy content, we held an anatomy clinic. Individual clinical sessions were conducted by the lecturers of the Department of Anatomy. Open tours of the Anatomy Museum were also provided. We further engaged with several industrial companies, which provided demonstrations of their products at their respective booths. In addition, we took the opportunity to raise funds for charity by selling our anatomy badges.

The WAD event was exceptionally well attended, and the visitors included lecturers from different departments and universities, postgraduate and undergraduate students of the medical and allied health science programmes, and industry partners. Figure 4 shows some of the participants who enthusiastically came for the event. We received considerable positive feedback from the visitors, who felt that learning anatomy was enjoyable. Despite facing several challenges during the planning stage, such as difficulty aligning activities for the undergraduate students of different disciplines and phases, the event was indeed a success.



Figure 1: Crossword Puzzle, Kahoot! game and Amazing Race activities during WAD 2019. (a) The participants were accomplishing the Crossword Puzzle within 10 minutes; (b) The Kahoot! Game, which questions were related to general anatomy and open to all visitors to the museum; (c) The participants from one of the groups for Amazing Race activity, completing the tasks at the checkpoints around the USM medical school.

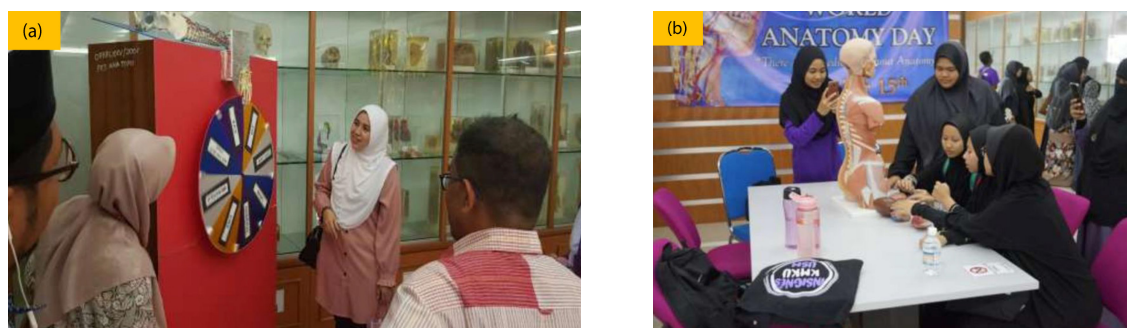


Figure 2: Dream Wheel and Assemble the Model activities during WAD 2019. (a) Dream Wheel with different numbers that each corresponds to a system of the body, and the participants were required to answer a set of questions related to the chosen topic; (b) Assemble the Model activity, where the plastic models were purposefully loosened their pieces so the participants must assemble them quickly to win this game.



Figure 3: The inauguration of Anatomy Learning Space, which was set up to provide a comfortable and modern study area for postgraduate students to use for class, discussion and self-study.



Figure 4: Some of the participants for WAD 2019 from various facilities, universities, postgraduate and undergraduate students, and the public who passionately came for the event.

WAD AT USM DURING THE COVID-19 PANDEMIC

In response to the COVID-19 restrictions in Malaysia, all in-person teaching and learning activities at USM were put on hold and replaced with the online platform (8). In 2021, despite the ongoing pandemic, we managed to organise an online celebration of WAD on 15 October 2021. Given the limitations and challenges of online events, we were only able to organise two activities:

Anatomy Fun Quiz and Let's Play Dough activity.

The Anatomy Fun Quiz was open to all medical students from public and private institutions in Malaysia. The objective of this quiz was to stimulate creative thinking among the students and to demonstrate that anatomy is not a dry subject. The questions for the quiz related to anatomy terminology to test the students' basic understanding in a relaxed manner. We managed to attract

40 participants from across the country, namely, USM, International Islamic University Malaysia, Universiti Malaysia Sabah, Universiti Putra Malaysia and Widad University College. The five top scorers were announced as the winners and were given prizes in the form of miniature anatomy models of the torso.

The Let's Play Dough activity targeted children aged younger than 13 years. The participants manipulated plasticine to design an organ or anatomy model based on their

unique creativity. They were required to send photographs to the organisers as proof of their work. Figure 5 shows a few examples of the creative artwork output by the children. They found it amusing to design the shapes of their internal organs and were excited to learn the details of their body structures. It was never too early to introduce the basic anatomy knowledge to children because based on a study by Bethlehem et al. (9), the grey and white matter volumes increased rapidly from the period of mid-gestation to early childhood.

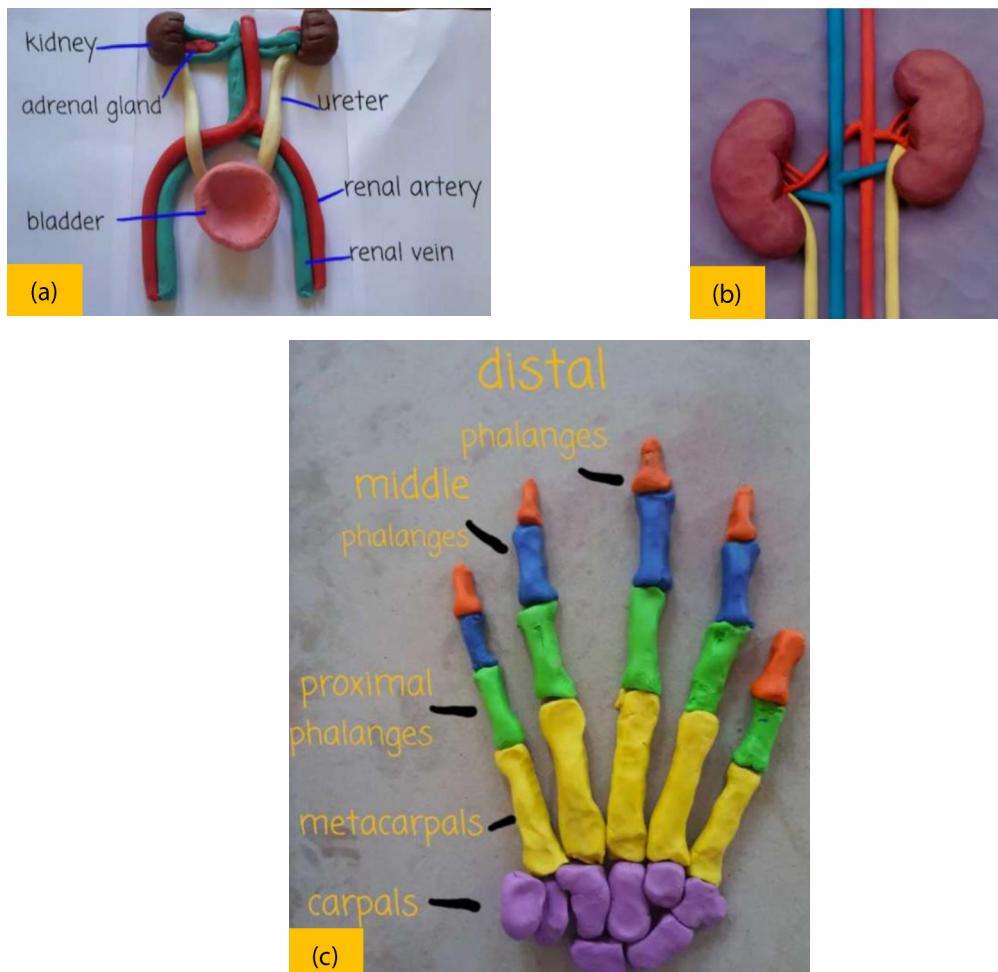


Figure 5: Some of the creative artwork by the kids who participated in the Let's Play Dough activity during WAD 2021. (a) Organs involved in the urinary system; (b) Kidneys, renal vessels and ureters; (c) Small bones that constitute the hand.

Table 1: A summary of the activities held during the WAD 2019 and 2021

Category	WAD 2019	WAD 2021
Interactive quiz	Crossword Puzzle Kahoot! Session Dream Wheel	Anatomy Fun Quiz
Memory and creativity	Assemble the Model Amazing Race	Let's Play Dough
Consultation and tuition	Anatomy Clinic	–
Others	Exhibition and Museum Tour	–

We encountered many challenges when organising the WAD celebration during the pandemic. The medium was limited to an online platform, which caused a lack of in-person interaction (10). It was also difficult to attract a good number of participants. No opening, closing or prize-giving ceremonies were hosted, which may have otherwise provided a more interesting experience for the participants. Nevertheless, several suggestions for improvement were recommended by the participants. For example, it was proposed that future events could incorporate a synchronised online event to increase participant engagement (11). Furthermore, the organisers could advertise the event a few months before the actual programme to ensure a larger number of participants (12). Table 1 shows the summary of the activities held during the WAD 2019 and 2021.

IMPLICATIONS OF THE WAD CELEBRATION FOR ANATOMY EDUCATION

Since its inception, WAD has become an annual event not only for the Department of Anatomy at USM, but also for the anatomy personnel and associations across the globe. It is hoped that more students will find that learning anatomy can be fun as a result of participating in WAD events. WAD strengthens the understanding of the importance of anatomy among medical students and promotes students' interest to learn anatomy. In addition, WAD

celebrations may increase the Department of Anatomy's visibility within USM and among local universities and thus open the door for future collaborations in teaching and research. Through this outreach, the WAD celebration instils awareness and interest among the general public about gaining basic knowledge of the structures of the human body as its activities emphasise the value of anatomy from the perspective of health education.

WAD is indeed an event that embraces the inclusivity of education, as outlined in the United Nations' Sustainable Development Goal 4 (SDG 4) (13). By applying various approaches and activities to reach community members at all levels of society, WAD provides an equitable opportunity for everyone to at least understand the structures of the human body. It further empowers anatomists to go beyond their daily routines in the dissection hall and laboratory by building an open learning environment for all community members. In keeping with SDG 4, future WAD celebrations will be designed to cater for the needs of underrepresented communities, such as visually impaired individuals and indigenous citizens.

CONCLUSION

To date, the WAD celebrations have created a unique learning experience for the organisers, lecturers, students and the general public. In addition to providing

anatomy outreach, this form of celebration recharges our humanness by leveraging knowledge to support the needs of different groups of people. Nevertheless, continued efforts are needed to make WAD more meaningful and accessible to people at all levels of society, including underrepresented citizens. It is noteworthy that a widescale celebration is perhaps required in the future to reach a larger cohort of the public. The involvement of the Malaysian Anatomical Association to spearhead the celebration at a national level is thus important to ensure the continued success of WAD.

ACKNOWLEDGEMENTS

The authors would like to thank Mr. Muhamad Nor Firdaus Ab Rahman, Mr. Mohd Aidi Azhari Mohamad, Mr. Syamsul Hairi Mustafa, Mr. Mohd Harissal Ismail and Madam Norhana Arshad, the Medical Laboratory Technologists from Department of Anatomy, School of Medical Sciences, Universiti Sains Malaysia for their contributions in organising the events reported in this paper. This work was supported by the Universiti Sains Malaysia Short Term Grant under grant number [304/PPSP/6315408].

REFERENCES

1. Moxham BJ, Shaw H, Crowson R, Plaisant O. The future of clinical anatomy. *Eur J Anat.* 2011;15(1):29–46.
2. Singh R, Shane Tubbs R, Gupta K, Singh M, Jones DG, Kumar R. Is the decline of human anatomy hazardous to medical education/profession? – a review. *Surg Radiol Anat.* 2015;37(10):1257–65. <https://doi.org/10.1007/s00276-015-1507-7>
3. Kowalczyk KA, Majewski A. Analysis of surgical errors associated with anatomical variations clinically relevant in general surgery. Review of the literature. *Transl Res Anat.* 2021;23:100107. <https://doi.org/10.1016/j.tria.2020.100107>
4. Taylor AM, Diggle P, Wessels Q. What do the public know about anatomy? Anatomy education to the public and the implications. *Anat Sci Educ.* 2018;11(2):117–23. <https://doi.org/10.1002/ase.1746>
5. Baram-Tsabari A, Yarden A. Interest in biology: a development shift characterized using self-generated questions. *Am Biol Teach.* 2007;69(9):532–40. <https://doi.org/10.2307/4452223>
6. Robert Burns E. Anatomy of a successful K-12 educational outreach program in the health sciences: eleven years experience at one medical sciences campus. *Anat Rec.* 2002;269(4):181–93. <https://doi.org/10.1002/ar.10136>
7. Nicholson H, Pather N. International Federation of Associations of Anatomists Newsletter PLEXUS Newsletter. 2019;2:13. [cited 29 November 2022]. Available from: https://www.ifaa.net/wp-content/uploads/2019/11/Plexus-2019_issue-2.pdf
8. Tg Muda TFM, Rushaidhi M, Ker Woon C, Dhamodharan J, Abdul Ghafar N, Kah Hui W, et al. Anatomy teaching and learning in Malaysia during the COVID-19 pandemic. *Educ Med J.* 2021;13(2):71–81. <https://doi.org/10.21315/eimj2021.13.2.6>
9. Bethlehem RAI, Seidlitz J, White SR, Vogel JW, Anderson KM, Adamson C, et al. Brain charts for the human lifespan. *Nature.* 2022;604(7906):525. <https://doi.org/10.1038/s41586-022-04554-y>
10. Ferri F, Grifoni P, Guzzo T. Online learning and emergency remote teaching: opportunities and challenges in emergency situations. *Soc* 2020. 2020;10(4):86. <https://doi.org/10.3390/soc10040086>
11. Bonifati A, Guerrini G, Lutz C, Martens W, Mazilu L, Paton NW, et al. Holding a conference online and live due to COVID-19. *ACM SIGMOD Rec.* 2021;49(4):28–32. <https://doi.org/10.1145/3456859.3456866>

12. Akers L, Gordon JS. Using Facebook for large-scale online randomized clinical trial recruitment: effective advertising strategies. *J Med Internet Res*. 2018;20(11):e290. <https://doi.org/10.2196/jmir.9372>
13. Boeren E. Understanding sustainable development goal (SDG) 4 on “quality education” from micro, meso and macro perspectives. *Int Rev Educ*. 2019;65(2):277–94. <https://doi.org/10.1007/s11159-019-09772-7>