Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Research Note

Impact of COVID-19 health information sources on student vaccine hesitancy

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ABSTRACT

Background: The purpose of this study was to determine how health care professional and undergraduate students stay informed on COVID-19 and which characteristics influence the decision to receive or recommend a vaccine to focus efforts on addressing misinformation and vaccine hesitancy.

Methods: A 13-item survey was administered to currently enrolled undergraduate and health care students (including nursing, dental, medical, and pharmacy) within the same university. Students were asked to rate their utilization and trust of COVID-19 resources and were asked about the importance and challenges of staying current with COVID-19 information. Student willingness to receive the vaccine was also assessed.

Results: The school of pharmacy had the highest percentage of students (88.3%, n = 159) who would receive the vaccine. Only 73.6% (n = 323) of undergraduate students reported they would be willing. Students who were willing to receive the vaccine had higher average scores of trust for scientific journals, school curriculum/coursework, and school communication and utilized these sources for COVID-19 information more than those who would not receive the vaccine and were unsure about receiving the vaccine.

Conclusions: This study confirms that students who were most trusting of their COVID-19 information sources were more likely to receive the vaccine. Pharmacy students relied heavily on information provided by the school curriculum/coursework, indicating the need for pharmacy faculty to include methods of addressing vaccine hesitancy such as simulation modules and the Pharmacists' Patient Care Process to help students combat vaccine hesitancy and misinformation when communicating with patients.

Introduction

COVID-19, caused by SARS-CoV-2, emerged in December 2019 and created a global pandemic.[1] The race to protect people included novel vaccine technology and atypical clinical trial development. To meet urgent needs, clinical trial phases occurred concurrently rather than in sequence, and the review of promising candidates was expedited by federal government agencies.[2,3] This may have contributed to concern that steps were skipped or rushed, and subsequently impacted vaccine acceptance. As the pandemic continued,

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intent to receive the vaccination declined and outright refusal increased.[4,5] With extensive misinformation surrounding COVID-19 and vaccine development, the World Health Organization declared an "infodemic" in February 2020.[6]

Fighting the infodemic is key to ending the pandemic and overall public health threat of vaccine hesitancy. Vaccine knowledge, rejection of conspiracy theories, and reliance on information sources other than social media have been shown to be significant positive predictors of vaccination intent.[7] Vaccine hesitancy associated with misinformation must be overcome across all demographic and regional groups to achieve herd immunity and successfully contain risk.[8,9] Young people, particularly college students, are an important group to target – the proximity of students and highly social nature of this time create challenges for risk mitigation measures such as social distancing. Understanding college students' perceived barriers and attitudes towards vaccination is key to improving vaccine acceptance and developing herd immunity.

To understand student attitude, it is important to determine if a relationship exists between type of information source used by the student and overall belief. Pre-pandemic studies indicate students reported higher trust in medical staff and health educators as sources of health information but rely more on parents as an information source. Faculty and coursework were the least utilized and only moderately trusted.[10] Results of an online survey of 256 United States (US) college students show that 51% of students reported low

Table 1
Survey questions and answer choices.

Question	Answer choices
Which best describes your affiliation?	Main Campus (undergraduate) School of Medicine School of Nursing School of Dentistry School of Pharmacy
On a scale of 1 to 5, with 1 being rarely and 5 being most of the time, how often do you rely on each source for COVID-19 information?[a]	1. Rarely 3. About half the time 5. Most of the time
On a scale of 1 to 5, with 1 being not at all trustworthy and 5 being highly trustworthy, how would you rate your trust regarding the accuracy of COVID-19 information you have received from each source?[a]	1. Not at all trustworthy 3. Neutral 5. Highly Trustworthy
How much do you agree or disagree with this statement: It is important to remain up-to-date on information surrounding COVID-19.	Strongly disagree Somewhat disagree Neither agree or disagree Somewhat agree Strongly agree
How much do you agree or disagree with this statement: It has been challenging for me to remain up-to-date on information surrounding COVID-19.	Strongly disagree Somewhat disagree Neither agree or disagree Somewhat agree Strongly agree
How often do you verify the sources provided by a news story regarding COVID-19?	Always Most of the time About half the time Sometimes Never
Based on the information available to you now, would you receive a COVID-19 vaccine when offered?	Definitely yes Probably yes Might or might not Probably not Definitely not Already received
Based on the information available to you now, would you support family/friends receiving the COVID-19 vaccine when offered?	Definitely yes Probably yes Might or might not Probably not Definitely not
Which of the following concerns, if any, do you have about receiving the vaccine? Select all that apply.	Short-term safety Long-term safety Effectiveness New vaccine type (Moderna, Pfizer) Uncertainty of effectiveness against new strains Availability of the vaccine Not enough information publicly available No concerns Other (fill in the blank)
Have you read any of the COVID-19 vaccine clinical trials?	Yes No

[a] A sliding scale was utilized for each of the following sources: workplace/job, school curriculum/coursework, scientific journals, school communication, television/radio news programs, social media outlets.

health literacy, and those with low health literacy were significantly more likely to use social media platforms as a source of information.[11] A different survey indicated that students who utilized social media as information sources were more vaccine hesitant.[12]

As future health care practitioners with readily-available, reliable sources of health information, students enrolled in health care-related professional programs may serve as an interesting comparator. In previous studies comparing medical vs. non-medical student vaccination acceptance rates, it does appear that students in medical programs had significantly lower fears regarding vaccination and were more willing to receive the vaccine.[13] As members of the medical community, pharmacists and pharmacy student interns already serve as information access points for patients and are critical administrators of other vaccines. With the addition of COVID-19 vaccinations, pharmacists are relied upon more than ever to reduce the barriers of misinformation and logistical challenges to vaccine distribution.[14] Pharmacies have direct impact on public acceptance, and pharmacy students are often at the heart of vaccination operations and patient inquiries. A survey of 1433 US pharmacy students reflected students' confidence in their ability to address patient concerns regarding vaccines such as hesitancy and refusal, with a median score of 4 on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).[15]

As the pandemic continues, it is important to investigate what influences may play a role in impacting students' ability to stay informed on COVID-19 and if this and other characteristics influence the decision to receive or recommend the vaccine. Students are inundated with school communications and other media regarding COVID-19, but actual utilization and impact of health information sources remains unclear. Learning more about where pharmacy students go for this type of information and what sources they trust may shed more light on how pharmacy faculty can best help deliver important health information to students, as this topic has not been extensively studied. On a larger scale, a better understanding of how all students obtain and act upon health information can assist pharmacy faculty in training future pharmacists to address vaccine hesitancy and misinformation in the general population.

Methods

A questionnaire was developed to determine which resources students are utilizing for COVID-19 information, challenges of staying current with COVID-19 information, willingness to receive the COVID-19 vaccine, and any hesitancies regarding the available vaccines. The 13-item survey (Table 1) was sent via email and newsletter postings three separate occasions between February and March 2021 to undergraduate and health care students (including nursing, dental, medical, and pharmacy) within the same university. Respondents were asked to rate their utilization and trust of resources on a five-point sliding scale (1 = rarely/not at all trustworthy, 3 = about half the time/neutral, and 5 = most of the time/highly trustworthy). Respondents were also asked about the importance and challenges of staying current with COVID-19 information and their willingness to receive the vaccine in a nominal fashion (disagree/agree and no/yes). Answers for willingness to receive the vaccine were grouped in the following fashion: "would receive the vaccine" included the answers "definitely yes" and "probably yes," while "would not receive the vaccine" included the answers "probably not" and "definitely not." The response "might or might not" were labeled as "unsure" about receiving the vaccine.

The survey and data analyses for this paper were generated using Qualtrics (Qualtrics^{XM}). Student's *t*-tests were used to compare all health care students to undergraduate students and pharmacy students to other health care students (nursing, dentistry, and medical students). Analysis of variance was used to compare willingness to receive the vaccine and type of resource. Descriptive statistics were used to report all remaining data including demographics and willingness to receive the vaccine.

Consent and ethical considerations

This study was reviewed by the university institutional review board and considered exempt from full review prior to the start of data collection. Consent was obtained by participants before starting the survey. Participants were given the options of not responding to any question or stopping the survey at any given time.

Table 2
Demographics of survey respondents.

Characteristic	Undergraduate n = 439 (%)	Nursing n = 156 (%)	Dentistry n = 81 (%)	Medicine n = 11 (%)	Pharmacy n = 180 (%)
Age					
< 18 years	4 (0.9)	0 (0)	0 (0)	0 (0)	0 (0)
18–20 years	166 (37.8)	19 (12.2)	2 (2.5)	3 (27.3)	8 (4.4)
21–23 years	158 (36)	20 (12.8)	18 (22.2)	5 (45.5)	80 (44.4)
24–25 years	25 (5.7)	14 (9)	29 (35.8)	1 (9.1)	54 (30)
≥ 26 years	86 (19.6)	103 (66)	32 (39.5)	2 (18.2)	38 (21.1)
Race					
Asian	53 (12.1)	9 (5.8)	8 (9.9)	2 (18.2)	21 (11.7)
Black or African American	39 (8.9)	11 (7.1)	3 (3.7)	0 (0)	7 (3.9)
White	329 (74.9)	134 (85.9)	68 (84)	7 (63.6)	148 (82.2)
Other	18 (4.1)	2 (1.3)	2 (2.5)	2 (18.2)	4 (2.2)

Results

Response rate

The questionnaire was sent three times, each separated by one week to optimize the number of responses. Of the 6084 students who received the survey (2878 undergraduate, 510 dental, 800 medical, 546 pharmacy, and 1350 nursing), 870 (14.3%) responded. Demographic results can be found in Table 2.

Resource utilization

Survey results indicate health care students rely more heavily on COVID-19 information provided by the workplace/job, school curriculum/coursework, scientific journals, and school communication compared to undergraduate students (Table 3). Undergraduate students tend to rely more heavily on television/radio news programs and social media outlets as COVID-19 information sources than health care students. The median score of 3 for undergraduate students for both television/radio news programs and social media outlets indicates a medium level of utilization (Table 3). When compared to all other health care students, pharmacy students tend to rely more heavily on workplace/job and school curriculum/coursework as COVID-19 information resources (Table 4). There were no statistically significant differences between pharmacy students and other health care students for reliance on television/radio news programs, scientific journals, school communication, and social media outlets as COVID-19 information resources (Table 4).

Resource trust

Health care and undergraduate students' trust in resources can be found in Table 5. Health care students trust COVID-19 information provided by the workplace/job, school curriculum/coursework, and school communication more than undergraduate students. Undergraduate students trust COVID-19 information provided by social media and television/radio news more than health care students; however, the median values were 2 and 3, respectively, indicating low trust. There was no significant difference between the two groups trusting scientific journals, with a median value of 5 for both groups, indicating the highest amount of trust. Health care and pharmacy students' trust in resources can be found in Table 6. Pharmacy students trusted COVID-19 information provided by the workplace/job, school curriculum/coursework, and school communication more than other health care students. There were no differences in trust for scientific journals, television/radio news programs, and social media outlets. Information from television/radio news programs and social media outlets both had a median score of 2, indicating low trust.

Staying current on COVID-19 information

Both undergraduate and health care students believe it is highly important to stay current on COVID-19 information, with a median value of 5 for both groups. However, pharmacy students think it is more challenging to stay up to date compared to undergraduate (mean score difference: 0.59, P = .001), nursing (mean score difference: 0.56, P = .001), and dental students (mean score difference: 0.49, P = .319). Medical and pharmacy students found it most difficult to stay up to date on COVID-19 information with a median score of 4, indicating moderate difficulty.

Concerns with receiving a vaccine

Undergraduate students generally reported more concerns about receiving a COVID-19 vaccine compared to health care students. Undergraduate students were more concerned with availability of vaccines, efficacy of the vaccines, new vaccine technology, lack of

Table 3
Utilization of information resources: health care vs. undergraduate students.

Information resource	Health care average[a] (n = 428)	Undergraduate average[a] (n = 439)	Average difference (health care – undergraduate)	95% CI	Health care median[a]	Undergraduate median[a]	P value
Workplace/job	3.48	2.63	0.85	0.639–1.06	4	2	< .001
School curriculum/ coursework	2.83	2.22	0.61	0.412–0.81	3	2	< .001
Scientific journals	3.33	2.78	0.55	0.36–0.741	3	3	< .001
School communication	2.94	2.7	0.24	0.0553–0.423	3	3	.01
Television/radio news programs	2.6	2.89	−0.29	- 0.475 to −0.0979	3	3	.003
Social media outlets	2.38	2.92	−0.54	−0.737 to −0.332	2	3	< .001

[a] Item was rated on a sliding scale of 1 to 5.

Table 4
Utilization of information resources: pharmacy vs. other health care students (dental, nursing, and medicine).

Information resource	Pharmacy average[a] (n = 180)	Other health care average[a] (n = 248)	Average difference (other – pharmacy)	95% CI	Pharmacy median[a]	Other health care median[a]	P value
Workplace/job	3.75	3.24	−0.51	−0.771 to −0.238	4	4	< .001
School curriculum/ coursework	3.11	2.6	−0.51	−0.78 to −0.244	3	2	< .001
Scientific journals	3.37	3.3	−0.068	−0.334-0.197	3	3	.61
School communication	3.03	2.86	−0.17	−0.433-0.0922	3	3	.20
Television/radio news programs	2.45	2.7	0.25	−0.0247-0.527	2	3	.07
Social media outlets	2.47	2.32	−0.15	−0.427-0.14	2	2	.32

[a] Item was rated on a sliding scale of 1 to 5.

Table 5
Level of trust in information resources: health care vs. undergraduate students.

Information resource	Healthcare average[a] (n = 428)	Undergraduate average[a] (n = 439)	Average difference (health care – undergraduate)	95% CI	Health care median[a]	Undergraduate median[a]	P value
Workplace/job	3.61	2.96	0.65	0.475–0.823	4	3	< .001
School curriculum/ coursework	3.74	3.2	0.54	0.395–0.694	4	3	< .001
Scientific journals	4.41	4.3	0.11	−0.00782-0.224	5	5	.07
School communication	3.65	3.36	0.29	0.142–0.433	4	3	< .001
Television/radio news programs	2.39	2.73	−0.34	−0.501 to −0.185	2	3	< .001
Social media outlets	1.7	1.98	−0.28	−0.418 to −0.146	2	2	< .001

[a] Item was rated on a sliding scale of 1 to 5.

Table 6
Level of trust in information resources: pharmacy vs. other health care students (dental, nursing, and medicine).

Information resource	Pharmacy average[a] (n = 180)	Other health care average[a] (n = 248)	Average difference (other – pharmacy)	95% CI	Pharmacy median[a]	Other health care median[a]	P value
Workplace/job	3.87	3.39	−0.48	−0.699 to −0.253	4	3	< .001
School curriculum/ coursework	3.98	3.55	−0.43	−0.633 to −0.226	4	4	< .001
Scientific journals	4.45	4.38	−0.07	−0.227-0.0742	5	5	.32
School communication	3.76	3.56	−0.2	−0.394 to −0.00427	4	4	.05
Television/radio news programs	2.34	2.41	0.07	−0.164-0.295	2	2	.57
Social media outlets	1.70	1.70	0	−0.189-0.193	2	2	.99

[a] Item was rated on a sliding scale of 1 to 5.

publicly available information, short-term safety, and efficacy against new strains of COVID-19 while health care students were more concerned with long-term safety of the vaccines. In addition, there was a higher percentage of health care students who responded with no concerns regarding the vaccines (Table 7). Respondents who would not receive or were unsure about receiving the vaccine had more concerns including short- and long-term safety, efficacy of the vaccines, new vaccine technology, lack of publicly available information, and efficacy against new strains of COVID-19. Respondents willing to receive the vaccine generally had a lower percentage of concerns but were more concerned about the availability of the vaccines (Table 8). Other concerns about the vaccine included pregnancy, infertility, religious reasons, allergies, and popular misconceptions.

Table 7
Concerns with receiving the vaccine: health care vs. undergraduate students.

Concern	Health care n = 428 (%)	Undergraduate n = 439 (%)
Availability of the vaccine	125 (29.2)	190 (43.3)
Effectiveness	130 (30.4)	163 (37.1)
Long-term safety	229 (53.5)	199 (45.3)
New type of vaccine technology	51 (11.9)	68 (15.5)
Not enough information publicly available	75 (17.5)	107 (24.4)
Short-term safety	52 (12.1)	86 (19.6)
Uncertainty of effectiveness against newer strains of virus	200 (46.7)	213 (48.5)
Other	42 (9.8)	44 (10)
No concerns	76 (17.8)	60 (13.7)

Table 8
Concerns with receiving the vaccine: student willingness to receive the vaccine.

Concern	Would receive n = 674 (%)	Would not receive n = 130 (%)	Unsure n = 66 (%)
Availability of the vaccine	284 (42.1)	21 (16.2)	12 (18.2)
Effectiveness	197 (29.2)	60 (46.2)	39 (59.1)
Long-term safety	290 (43)	91 (70)	49 (74.2)
New type of vaccine technology	63 (9.3)	39 (30)	17 (25.8)
Not enough information publicly available	86 (12.8)	72 (55.4)	25 (37.9)
Short-term safety	62 (9.2)	54 (41.5)	23 (34.8)
Uncertainty of effectiveness against newer strains of virus	312 (46.3)	68 (52.3)	36 (54.5)
Other	36 (5.3)	41 (31.5)	9 (13.6)
No concerns	125 (18.5)	9 (6.9)	2 (3)

Receiving vaccine

Of the 672 students that would be willing to receive the vaccine, 349 (51.9%) were health care students and 323 (48.1%) were undergraduate students. The highest percent of students who would receive the vaccine were enrolled in the school of pharmacy (SOP. Of the respondents from the SOP, 159 (88.3%) would receive the vaccine, compared to 121 (77.6%) nursing, 61 (75.3%) dental, 323 (73.6%) undergraduate, and (72.7%) medical students. A total of 130 students would not want to receive the vaccine, 52 (40%) health care students and 78 (60%) undergraduate students. Of the 65 students who were unsure, 27 (41.5%) were health care and 38 (58.5%) were undergraduate students.

Information resources and receiving the vaccine

There were no significant differences when comparing utilization of each resource to the intent to receive the vaccine (Table 9). Students who were willing to receive the vaccine had higher average trust scores for scientific journals, school curriculum/coursework, and school communication as COVID-19 information resources compared to those who would not receive the vaccine and those who were unsure about receiving the vaccine. Students willing to receive the vaccine also had more trust in television/radio news programs compared to those who would not receive the vaccine. Students unsure about receiving the vaccine trusted their workplace/job as a resource less than those who would receive the vaccine (Table 10). There were no differences in the willingness to receive the vaccine and the amount of trust for social media outlets. There were also no differences in the amount of trust for each resource between students who would not receive the vaccine and those who were unsure about receiving the vaccine.

Table 9
Level of trust in information resources: students receiving vs. not receiving the vaccine.

Information resource	Receiving vaccine average[a] (n = 674)	Not receiving vaccine average[a] (n = 130)	Average difference (not receiving - receiving)	Receiving vaccine median[a]	Not receiving vaccine median[a]	P value
Workplace/job	3.38	3.01	−0.37	3	3	.06
School curriculum/ coursework	3.59	2.91	−0.68	4	3	.001
Scientific journals	4.49	3.78	−0.71	5	4	.001
School communication	3.61	2.96	−0.65	4	3	.001
Television/radio news programs	2.65	2.24	−0.41	3	2	.005
Social media outlets	1.88	1.65	−0.24	2	1	.07

[a] Item rated on a sliding scale of 1 to 5.

Table 10
Level of trust in information resources: students receiving vs. unsure about receiving the vaccine.

Information resource	Receiving vaccine average[a] (n = 674)	Unsure average[a] (n = 66)	Average difference (unsure - receiving)	Receiving vaccine median[a]	Unsure median[a]	P value
Workplace/job	3.38	2.92	−0.46	3	3	.03
School curriculum/ coursework	3.59	3.12	−0.47	4	3	.02
Scientific journals	4.49	3.93	−0.55	5	4	.001
School communication	3.61	3.22	−0.39	4	3	.04
Television/radio news programs	2.65	2.33	−0.31	3	2	.16
Social media outlets	1.88	1.79	−0.09	2	2	.77

[a] Item rated on a scale of 1 to 5.

Discussion

This study assessed differences between health care and undergraduate students in obtaining health information and influences affecting these students' decisions to act upon health information. The survey found that health care students placed more trust in information sources such as their workplace/job and school curriculum/coursework and utilized these resources more than undergraduate students. Undergraduate students utilized television/radio news programs and social media more than health care students, even though these resources were associated with a low level of trust. Undergraduate students were also less likely to receive the COVID-19 vaccine. Students more willing to receive the vaccine placed higher trust in scientific journals, and students with higher levels of trust in COVID-19 information sources were more likely to receive the vaccine. Although students trust scientific journals, the lay person may not be able to accurately interpret the information to make health-related decisions. This calls attention to the importance of disseminating evidence-based, scientific information to the public in a way that is easy to understand.

Pharmacists and pharmacy students play a large role in the community and are key players in fighting the infodemic due to extensive patient interaction. Results of this study show that pharmacy students utilize their workplace/job and school curriculum/coursework more than other students, indicating the importance of implementing change while in school so students can carry this knowledge to their workplace, advanced pharmacy practice experiences (APPEs), and future places of employment as pharmacists. Previous survey results show that when vaccine hesitancy is included in the school's curriculum, students are more confident in their knowledge and ability to address patient concerns.[15] Including a vaccine hesitancy unit in the immunization curriculum for students to practice counseling vaccine-hesitant patients via standardized simulations has shown significant improvements in student outcomes. Students' confidence in their ability to speak to patients regarding vaccines and confidence in their knowledge of common misconceptions was significantly higher post-simulation. Of the 180 students who completed the study, 87% agreed that the simulation should be offered annually.[16]

Patients need access to reliable sources of health information, especially as both health care and undergraduate students felt it was highly important to stay up to date on COVID-19 news. Assessing patient barriers to scientific information and sources of health information regularly used by patients should be a topic of high priority both in the pharmacy curriculum and APPEs. This university's pharmacy school curriculum is based around the Pharmacists' Patient Care Process (PPCP),[17] which can be utilized when communicating scientific information to patients. Pharmacists and pharmacy students have access to evidence-based literature and are trained how to interpret it in layman terms, whereas undergraduate students and patients may not have that capability. Incorporating the PPCP into a vaccine hesitancy module can give students the confidence and tools they need to successfully communicate evidence-based information to vaccine-hesitant patients.

Results of this study, as well as other studies, indicate areas of concern are popular conspiracy theories and misconceptions, confirming widespread misinformation in the community.[7,12,18,19] The ability of students to utilize the PPCP based on their knowledge of patient health information sources can help answer the call to train people to recognize fake news, overwhelm false information with accurate information, and formulate patient-specific interventions to address vaccine hesitancy in a way that is "coherent and coordinated, guided by evidence and public health priorities."[6,19] This will not only help hesitancy associated with the COVID-19 vaccine, but the overall vaccine hesitancy that threatens public health.

This study has several limitations. The survey was sent out to students at one university, making it difficult to generalize results to all undergraduate and health care students in different parts of the country. Students were given the option to leave answers blank which may have resulted in an incomplete number of responses to specific survey questions. Since there were only a minimal number of questions that were left blank, it is not believed to have affected the results. The proportion of respondents was not spread equally across all schools, particularly from the school of medicine (1.3%) and dentistry (9.3%). However, responses were similar between undergraduate (50.6%) and health care students (49.4%). The resource list provided in the survey was not all-inclusive and may have left out other resources utilized by students. The survey was sent on three separate occasions over three weeks; thus, COVID-19 news available to students throughout the three weeks may have differed and influenced survey responses. Lastly, the survey was delivered through school communication and the respondents may have been more inclined to utilize or trust resources such as school communication.

Potential future research should investigate the drivers that influence both students and the public to act upon health information to develop the most impactful communications. Doing so could help mitigate the spread of misinformation across communities and

address hesitancies that exist among members of health care and non-health care related fields. As pharmacists and pharmacy educators, our responsibility is not only to the students within the SOP but also to the public. The evidence shows that educators in health care-related fields are a resource that students trust; thus, it is essential that we take on a bigger role in fighting misinformation. By properly educating future pharmacists, we can provide another information source that students and patients can trust for health information.

Conclusions

Significant differences were seen between health care and undergraduate students when utilizing and trusting different resources for COVID-19 information. Health care students placed more trust in and utilized information sources such as their workplace/job and school curriculum/coursework than undergraduate students. Undergraduates tended to utilize sources such as social media in which there was a low level of trust. All respondents placed high trust in scientific journals, and students who were more trusting of their COVID-19 information indicated they were more likely to receive the vaccine. However, a barrier between trust and utilization of scientific journals by the lay person is health literacy. It is important to train pharmacy students as future key members of the community to help disseminate evidence-based, scientific information throughout the community in ways patients can understand. The PPCP is one tool that can be utilized by SOP to help students learn how to successfully communicate scientific information to patients. For the PPCP to be effective, students must also have experience with reputable sources for patient health information. Implementing vaccine hesitancy modules into the immunization curriculum is one way to build students' confidence in addressing patients and allows them to apply the PPCP in real-world scenarios. It is the responsibility of SOP to stress the importance of this topic both in the curriculum and throughout APPEs. In providing accurate information to the public and fellow students, future pharmacists can help fight the infodemic and increase vaccine acceptance, ultimately ending the COVID-19 pandemic.

Disclosure(s)

None.

Declaration of Competing Interest

None.

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