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Utilising a Knowledge, Attitude, Practice (KAP) survey to support partnership-based approaches in delivering a COVID-19 Vaccine community-engagement webinar

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Abstract

Purpose: The objective of this study was to explore the feasibility of a partnership model to develop insights on vaccine uptake using a Knowledge, Attitude, Practice (KAP) survey to inform community engagement activities.
Methods: An informal agreement was made with the leadership committee of a local mosque to review and administer a survey (through electronic distribution, convenience sampled), with findings to be included as part of feedback during a webinar on the COVID-19 vaccine.
Results: There were 90 participants, of which 61 were male, and included a range of ages and ethnicities. Findings demonstrated adequate (trending to good) ***knowledge*** and ***attitude*** with average cumulative scores across the cohort of 67% and 69% respectively, and good ***practice*** behaviours with a score of 74%.
Conclusion: Mosques represent suitable organisations as potential community partners to facilitate insights using tools such as KAP surveys to inform health engagement initiatives related to Covid-19 and the vaccine.

Introduction

Minority ethnic communities are less likely to be vaccinated than Majority White groups (1). A range of barriers have been considered including perception of risk, low confidence in the vaccine, distrust, access barriers, inconvenience, socio-demographic context and lack of endorsement, lack of vaccine offer or lack of communication from trusted providers and community leaders. Community engagement is key to responding to issues of vaccine hesitancy (2). Within the Muslim community, a number of initiatives, in particular webinars and social media flyers, have been used to try and address some of the concerns (3). Muslims in the UK represent diverse ethnic groups, and as such, organisations such as mosques provide a lens into such communities, rendering them suitable hubs to explore health and social issues (4). However, there remains limited opportunities for communities to share their opinions in a non-stigmatised way so that initiatives can be tailored more appropriately. In recognising that mosques in the UK are often considered an area of community activity, of which a number were hosting COVID-19 related webinars, it follows that such sites could serve as a means of enhancing community engagement by seeking the opinions of the mosque congregation to help inform the webinar planning and discussion, as well as plan for any future initiatives. It also follows that such engagement could support the development of improved community insights on the diversity and challenges of specific issues within the framework of the vaccine hesitancy model (inclusive of the '3C's of Confidence, Complacency and Convenience), and so better guide and support and interventions (5). One way of exploring community health behaviours is by utilising Knowledge, Attitude Practice (KAP) surveys (6). In addition, an emphasis on rapidity is required given the dynamic circumstances presented by the pandemic, which for all intents and purposes, represents a humanitarian crisis given its large

geographical area of involvement, significant economic resource burden, and impact on ensuring fundamental human rights (7) The aim of this research was to determine if using a KAP survey approach in a rapidly deployed manner would facilitate engagement with a Muslim community sample, and provide useful insights to support planning and delivery of vaccine related initiatives.

Methods

Study Setting

Leeds Grand Mosque (LGM) leadership had approached the author for support in hosting a community engagement webinar, and as such was selected as the primary site of the project.

Sample size

The usual 'Juma'ah' Friday prayer congregation size was between 1000-1200 worshipers prior to the pandemic, with regular daily prayer congregations between 30-60, additionally having active Facebook pages and YouTube channels. Given that the survey would be distributed electronically, and recognising the engagement with social media posts can be variable, as well as that this was a study exploring the partnership-based approach rather than demonstrating true cohort representation, a formal sample size was not calculated.

Questionnaire

An online survey (using Googleforms) was used to develop a short Knowledge Attitude Practice survey comprising of 5 sections and a total of 25 questions.A sample of the survey questions can be found in the supplementary data section.

- Section A consisted of 6 questions focused on knowledge-based aspects
- Section B had 4 questions exploring attitudes
- Section C contained 5 questions examining behaviours
- Section D had 3 questions soliciting ideas and preferences on future activities and participation barriers
- Section E had 7 questions focusing on demographics, sources of information and an opportunity to offer further comments

Knowledge, attitude and practice questions were structured using a 5-point Likert-type scale of Strongly Disagree to Strongly Agree, as well as a separate 'Don't know' option. Questions included both positive and negative framing, where in positive questions, Strongly Disagree correlated with a score of 1, and Strongly Agree with 5, with the inverse being the case with negatively framed questions. Don't know (or absent) responses scored 0. No personal identifiers were collected, participation was voluntary, and informed consent was obtained prior to survey completion. There were no compulsory questions, and participants had the option not to declare characteristics of sex, age and ethnicity.

Validation

The mosque committee were consulted to review suitability and appropriateness of questions prior to electronic distribution.

Survey distribution

A social-media flyer suitable for WhatsApp, Facebook and email distribution was developed for the mosque, along with a unique GoogleForms link and QR code. The mosque committee were asked to facilitate electronic distribution of the survey through the relevant mosque social media channels. Informal agreements were made with the mosque committee to support electronic distribution of the survey with relevant reminders to support completion, as well as to commit to a feedback meeting to discuss the results and findings, with the additional understanding that results may be shared through local public health forums. The survey was open for collecting responses for 2 weeks during the second half of January 2021.

Analysis

For preliminary analysis, results were exported onto Googlesheets, where, following removal of duplicate entries, a numerical value was allocated to each of the responses, with average cumulative scores then calculated for each question, as well as for each domain of knowledge, attitude and practice. Domain averages were additionally explored by demographic characteristics to provide a descriptive analysis of the survey sample. For each domain, average scores of less than or equal to 50% were categorized as poor in terms of overall health behaviour, with 51-69% being adequate, and greater than 70% representing good. Free texts statements and comments were reviewed for general themes and ideas to feedback to the mosque leadership, although formal thematic analysis was not performed.

Ethics

Study information was provided, as well as electronic informed consent was obtained, prior to survey completion. No personal identifiers were collected, and participation was voluntary, with the option to withdraw responses by contacting the study author or mosque committee by email. There were no compulsory questions, and participants had the option not to declare characteristics of sex, age and ethnicity. Given the rapid, community -focused assessment approach of this study as well as consent process and non-identifiable data variables collected, formal IRB ethics approval was neither sought nor deemed necessary.

Results

A total of 90 participants responded to the survey. The majority of participants were male, aged between 31 and 50 years, and of Asian origin as summarised in Table 1 below. While data for further age and ethnicity subgroups were collected (as outlined in the sample survey), these were compiled into larger subgroups for ease of analysis.

Demographic characteristics	LGM (%)
Total Respondents (n)	90
Sex	
• Male	61 (67.8)
• Female	29 (32.2)
• Not declared	-
Age	
• 16-30 years	22 (24.4)
• 31-50 years	50 (55.6)
• 51-70 years	18 (20)
• Not declared	-
Ethnicity	
• Asian	45 (50)
• Arab	23 (25.6)
• White	11 (12.2)
• Black	4 (4.4)
• Other	5 (5.6)
• Not declared	2 (2.2)

Table 1: Basic demographic characteristics of participants

The cumulative average score demonstrated adequate knowledge with a score of 67% as shown in table 2 below. While participants had good knowledge in terms of the safety, Islamic permissibility and importance of the vaccine, doubts remained in reference to effectiveness, side effects and the mRNA vaccine technology. Note that questions marked with an asterisk represent negatively framed questions, and so had inverse scoring in order to arrive at an indicative percentage score.

When considering attitudes towards the vaccine, scores were in generally positive, scoring just below good at 69% as a domain. The common view of waiting to see what happens with the vaccine rollout in some ways reassures that poor vaccine uptake may not represent outright refusal, but rather an opportunity for when there is greater confidence in the vaccine. These findings are outlined in Table 3.

The participants demonstrated good practice behaviours with a domain score of 74% as shown in Table 4. The importance of both trust in Islamic leadership, as well as in health professionals was reinforced with good scores, with the only adequate score (62%) in this domain being that of accessibility to a health professional to discuss vaccine related concerns.

Knowledge questions	Score (%)
Cumulative Average Domain Score	***67***
1. The current approved COVID-19 vaccines are safe for use in the general population.	72
2. From an Islamic perspective, vaccines are considered permissible and halal by the majority of Islamic scholars.	82
3. The severity of COVID-19 illness if you get sick is the same regardless if you have had the vaccine or not. *	65
4. Vaccines are necessary, and one of the only ways to help return back to a more normal way of life.	74
5. The vaccines are clearly linked to many serious, life-changing side effects*	59
6. Using mRNA technology is a safe and effective method of developing new vaccines.	52

Table 2: Summary scores for Knowledge Domain and individualquestions

**negatively framed question, where inverse weighting was given to responses to calculate scores*

Attitude questions	Score (%)
Cumulative Average Domain Score	***69***

7. It is better to delay myself or my family getting the vaccine to wait and see what happens with the general public as the vaccine is rolled out.*	64
8. The benefits of vaccines outweigh any risks or side effects.	71
9. It is better to gain immunity through getting sick with COVID19 instead of using the vaccine.*	73
10. I trust the information and guidance being provided by the Government, NHS and health professionals	68

Table 3: Summary scores for Attitude Domain and individualquestions

**negatively framed question, where inverse weighting was given to responses to calculate scores*

Practice questions	Score (%)
Cumulative Average Domain Score	***74***
11. If myself or someone in my family is offered to take the vaccine, I will refuse.*	73
12. I am able to easily discuss my concerns about the vaccine with my GP or another health professional (such as a pharmacist).	62
13. I usually take other vaccines when appropriate, and encourage my family members do to the same (such as with Flu vaccine, or childhood school vaccinations)	78
14. I trust and follow the advice and rulings that Islamic Scholars and Imams have issued in relation to the vaccine.	79
15. I will follow the advice and recommendations from my GP/Hospital Doctor if I or my family members are invited to receive the vaccine.	80

Table 4: Summary scores for Practice Domain and individualquestions

** negatively framed question, where inverse weighting was given to responses to calculate scores*

The survey offered the opportunity for participants to provide suggestions on how to improve engagement or additional comments on their experiences of the vaccine roll-out. Box 1 below summarises a sample of these which represent common themes around improving confidence in the vaccine as well as addressing issues of complacency through faith-based and contextualised approaches, and refer to questions 16,17, 18 and 25 in sections D and E.

Statements on Engagement Preferences and Comments
• There are lots of concerns amongst LGM members; some have bought into conspiracy theories. There is generally a lack of trust within our community. • There is trust between the public and health workers but not with the government. Too many poor decisions have been made and people cannot trust them to say that the vaccine is ok to take. • We need to stick together and get all Leeds mosques together as one inshallah I hope this can be achieved and help each other in Leeds • I don't believe Covid 19 is a big deal like the government wants to show us, it's an overreaction to scare people. • The vaccine has not been tested long enough to give true conclusion when taken. • The biggest problem we all face in this pandemic is the lockdown, due to strict NHS guidelines, we hardly see each other as in normal life. We should organise events and talk in the Mosque according to government guidelines, such as sitting in chairs with a 2 metre gap, that will definitely convince our communities in one page. • Please continue the good work you are doing as a mosque may Allah reward you

Box 1: Sample of statements provided on engagement preferences and comments.

Discussion

The results show that in general, positive practice behaviours are observed, despite knowledge gaps and guarded attitudes towards vaccination. This is an important and reassuring observation and contrasts with the current more worrying perspectives on vaccine uptake in minority communities (8). Within the 3Cs model, survey findings and comments illustrated the need to regain trust in the health system, as well as to address access barriers to reliable information. A key aspect was the value placed in community leaders and health professionals in supporting positive health behaviours, which reinforces the view that narrowing the gap between communities and health workers in terms of accessibility would serve to address some of the barriers related to vaccine uptake. The findings offer insights into the development of content for webinars and other engagement tools and strategies, as well as the value in

empowering mosques and by proxy, community-based organisations, to support targeted health promotion activities which are aligned to culturally competent concepts and Islamic principles. Next steps would be to trial the survey in other settings (within either Muslim or other Faith or ethnic groups) and involve a larger group of researchers to validate the questions and review results.

Limitations

Key limitations of this study include the fact it was conducted in English, and this may not have been the preferred language of participants. In addition, the wording and style of the survey had not been piloted with a representative sample beyond the mosque leadership prior to distribution. The option of electronic distribution would exclude those congregation members who are not supported with digital access. In addition, a significant proportion of mosque attendees are male, and hence it is important to acknowledge the inequitable community representation of females when conducting such studies through mosques.

Conclusion

The results of this study demonstrate the feasibility in engaging with community-based organisations such as mosques in exploring community health behaviours. The findings demonstrate the importance of localised approaches in addressing the 3Cs model on vaccine hesitancy, as well as confirming that involving local leaders and health care professionals through webinars are consistent with engagement preferences. The COVID Survey represents a rapid, pragmatic and scalable model in developing community partnerships as well aslocal insights to inform future engagement events to support policy planning and implementation decisions to ensure a more equitable approach to vaccine uptake.

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Supplementary Information

Summary of Survey questions

The following questions refer to the Pfizer-BionTech, Oxford AstraZeneca and Moderna vaccines. Please choose the option from the scale which most accurately represents your view to following statements.

Section A: Knowledge

1. The current approved COVID-19 vaccines are safe for use in the general population.
2. From an Islamic perspective, vaccines are considered permissible and halal by the majority of Islamic scholars.
3. The severity of COVID-19 illness if you get sick is the same regardless if you have had the vaccine or not.
4. Vaccines are necessary, and one of the only ways to help return back to a more normal way of life.
5. The vaccines are clearly linked to many serious and life-changing side effects.
6. Using mRNA technology is a safe and effective method of developing new vaccines.

Section B: Attitude

7. It is better to delay myself or my family getting the vaccine to wait and see what happens with the general public as the vaccine is rolled out.
8. The benefits of vaccines outweigh any risks or side effects.
9. It is better to gain immunity through getting sick with COVID19 instead of using the vaccine.
10. I trust the information and guidance being provided by the Government, NHS and health professionals.

Section C: Practice

11. If myself or someone in my family is asked to take the vaccine, I will refuse.
12. I will follow the advice and recommendations from my GP if I or my family members are invited to receive a vaccine.
13. I usually take other vaccines when appropriate, and encourage my family members to do the same (such as with Flu vaccine, or childhood school immunizations)
14. I am able to easily discuss my concerns about the vaccine with my GP or another health professional (such as a pharmacist).
15. I trust and follow the advice and rulings that Islamic Scholars and Imams have issued in relation to the vaccine.

Section D: Planning ahead

16. Please tell us what kind of activities you would like to see arranged to help provide information or address any concerns about COVID19 and related issues.
17. How can we improve participation of the community in such activities?
18. What do you feel stops you being involved in such activities?

Section E: General Questions

19. Age
20. Gender
21. Ethnicity
22. Sources of information:
    Please select the 3 most important sources of information that help you to make decisions regarding COVID19 and the vaccine.
    GP
    Hospital doctor
    Other health professional
    NHS website
    News Reports on TV
    TV shows
    Family members Friends Children's School Radio
    Social media (WhatsApp, Youtube, Facebook, Twitter etc) Printed media (flyers, newspapers)
    Other
23. Of your 3 selected options, please give more details such as the name of the TV show, or name of the social media app or which family member.
24. Which Mosque/Islamic Centre do you normally attend?
25. Any other comments: