Dalawi, I., et al., (2022). *J Comp Nurs Res Care 7*(1): 182
https://doi.org/10.33790/jcnrc1100182

Journal of Comprehensive Nursing Research and Care

Knowledge, Attitude and Practice Assessment on COVID-19 infection: A Systematic Review Protocol

Izzaty Dalawi[1,2], Mohamad Rodi Isa[2*], Xin Wee Chen[2] , Zahir Izuan Azhar[2] , & Ahmad Nazim Aimran[3]

[1]Unit Jawatan Simpanan Latihan, Bahagian Pengurusan Latihan, Kementerian Kesihatan Malaysia, Aras 6, Menara Prisma, Presint 3, 62675 Putrajaya, Wilayah Persekutuan Putrajaya, Malaysia.

[2]Department of Public Health Medicine, Faculty of Medicine, Universiti Teknologi MARA Sungai Buloh Campus, Jalan Hospital, 47000 Sungai Buloh, Selangor, Malaysia.

[3]Center of Statistical and Decision Sciences Studies, Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA, Shah Alam Campus, 40450 Shah Alam. Selangor, Malaysia.

Article Details

Article Type: Study Protocol
Received date: 25th March, 2022
Accepted date: 21st April, 2022
Published date: 23rd April, 2022

***Corresponding Author:** Mohamad Rodi Isa, MBBS, DAP& E, MPH, DrPH, Department of Public Health Medicine, Faculty of Medicine, Universiti Teknologi MARA Sungai Buloh Campus, Jalan Hospital, 47000 Sungai Buloh, Malaysia. E-mail: rodi@uitm.edu.my

Citation: Dalawi, I., Isa, M.R., Chen, X.W., Azhar, Z.I., & Aimran, A.N. (2022). Knowledge, Attitude and Practice Assessment on COVID-19 infection: A Systematic Review Protocol. *J Comp Nurs Res Care 7*(1):182. doi: https://doi.org/10.33790/jcnrc1100182.

Copyright: ©2022, This is an open-access article distributed under the terms of the Creative Commons Attribution License 4.0, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

The coronavirus disease 2019 (COVID-19) is an emerging respiratory disease caused by a novel coronavirus named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It has been declared a public health emergency of international concern (PHEIC) by the World Health Organisation (WHO) on 30 January 2020. We aim to systematically review the tool used for the assessment of the knowledge, attitude, and practice (KAP) on Covid-19 infection. We will conduct a systematic review of knowledge, attitude, and practice assessment on COVID-19 infection. The search will cover the period December 2019 to January 2021. Study selection will follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Study quality will be assessed using the STROBE checklist for a cross-sectional study. Data will be analysed using descriptive statistics. The numerical outcome will be analysed using mean and standard deviation. The categorical outcome will be analysed using absolute numbers and percentages. The range number of items, reliability, and validity of each domain will be assessed descriptively. This systematic review of KAP measurement tools will provide a detailed summary of the existing tools used to assess the KAP levels towards COVID-19 and its' reliability and validity in different settings and populations. Also, the review will provide evidence on the importance of the reliability and validity of the assessment tools in ensuring quality data from future research.

Keywords: Knowledge, Attitude, Practice, Assessment, COVID-19 Infection

Introduction

The coronavirus disease 2019 (COVID-19) is an emerging respiratory disease caused by a novel coronavirus named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [1]. Since then, it has spread very fast to more than 200 countries and has been declared as a public health emergency of international concern (PHEIC) by the World Health Organisation (WHO) on 30 January 2020 [2]. For more than a year, the global has lived with the SARS-COV-2 virus. Yet, this infection is continued to spread with more than 158 million cases, with 3.2 million deaths reported globally [3]. While in Malaysia, we could see that one wave after another hit the country with the latest re-surging of cases since early April 2021 [4]. This has been postulated that could be a sign of pandemic fatigue in the population, which can be defined as demotivation to follow the recommended protective behaviours, emerging gradually over time and affecting many emotions, experiences, and perceptions [5].

Furthermore, the uncertainties, fake news, and misunderstanding on the COVID-19 itself would cause a lot of confusion among the public. This can directly affect how peoplereact and behave towards COVID-19, in which any incongruence may lead to the deterioration of the preventive and control behaviours. Consequently, this indicates the need to assess the knowledge, attitude, and practice (KAP) towards COVID-19 and the anticipated challenges for such assessment in the post-COVID-19 era.

KAP survey is referred to a study that is conducted to collect the information on the knowledge (based on what the people known), attitudes (based on what the people thought and perceived) and practices (based on what the people followed or done) either on a general or specific topic. It is usually done through a structured interview or self-directed by the respondents using a standardised questionnaire that may include quantitative and qualitative data [6]. The KAP survey is very useful as the data generated from the survey can identify the knowledge gaps, cultural beliefs, and behavioural patterns, which can further identify the needs and barriers in implementing specific health interventions. Also, the data will deepen the understanding, attitude, practice and the factors associated with the studied topic and behaviour. Of course, the data also can act as baseline data to be compared following the implementation of a particular intervention. These will help the policymaker and stakeholders to be able to set a program and decision depending on the priorities [6]. In the case of COVID-19, the effect of the implementation of movement control order, health education campaigns as well as vaccination programs can also be measured using the KAP survey, which also can be done from time to time [7-9].

COVID-19 infection is known to be caused by a novel virus. Till now, essential public health intervention such as hand hygiene, social and physical distancing and wearing masks with or without eye protection remains as the best weapons to combat the disease regardless of the vaccine's arrival [10]. The effectiveness of these measures is very much dependent on the cooperation and compliance of the population [11]. On top of that, following the vaccination program on COVID-19, which has started, the KAP survey can also be one of the approaches to assess the impact from time to time and especially in terms of the factors that may be associated with the acceptability of the vaccines [6, 12]. To support the importance of the KAP survey and the questionnaire used, we need to ensure that the data gained from the KAP questionnaire should be reliable and valid for the usage of the intended population so that it can help to collect a better quality of data with high comparability and credibility of the data [13]. It should be appropriately developed, validated, and psychometrically sound [14]. Although using an existing questionnaire will save time and resources, the questionnaire that measures the construct of interest may not be readily available or not available in the language that researchers want to [14]. Perhaps, people tend to take it for granted and decided to use a questionnaire that has only shown good reliability without testing its validity. This has led to the need for this review in assessing the KAP survey tools available for COVID-19 in the literature and the validity and reliability of the tools.

To our knowledge, there are no published systematic reviews that focus on the assessment tool of the knowledge, attitude, and practice of COVID-19, similar to our study. Previous systematic reviews may cover the patterns of knowledge, attitudes, and practices on the COVID-19 in Ethiopia [15, 16] and the factors associated [17]. This review aims to identify, describe and evaluate the KAP assessment tool on COVID-19 available in the literature. A comprehensive review of all questionnaires on the KAP studies on COVID-19 will be collated and confirm the valid and reliable assessment tool for future KAP research in this field.

Material and Methods

Registration

This study protocol has been registered under the INPLASY registry with the registration number INPLASY202150039. The review will be done following the reporting standards suggested in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement.

Comprehensive Literature Review

The searching procedure will be conducted using bibliographic databases and other evidence sources which can address the review question. The procedure of comprehensive literature search will involve looking for the eligible articles, searching strategy for identification of studies, study selection, and data extraction.

Search strategy

A comprehensive search of the literature will under take using three biomedical electronic databases i.e., WHO COVID-19, Science Direct, Scopus, PubMed, MEDLINE, and EMBASE to perform our research. The search aimed to identify relevant articles published in peer-reviewed journals written in English, with the assumption that most of the important findings will be reported in English regardless of country of origin. The process of searching strategy for identification of studies included all published studies.

The research question was performed by identifying the type of evidence needed to answer the question. The strategy uses domain, determinant, and outcome (DDO) format in the study. DDO format will be used to obtain relevant answers and identify the question, and concentrate the mind.

The domain will be the "COVID-19". The determinant is an "assessment" OR "questionnaire" OR "survey". The outcomes will be "knowledge" OR "attitude" OR "practice".

Eligibility Criteria

The searching procedure will be conducted using bibliographic databases and other evidence sources to address the review question. The procedure of a comprehensive literature search will be looking at the eligibility articles, searching strategy for identification of studies, study selection, and data extraction.

The studies that do not meet the specific inclusion criteria for this study will be eliminated. The inclusion criteria in this study are research articles and case reports, human studies, English language, and articles published from December 2019 to January 2021. The exclusion criteria are review articles, in vivo or in vitro studies, other languages, non-free full-text articles. This systematic review will consider the only cross-sectional study of good quality.

Search Strategy for Identification of Studies

The search strategy aims to obtain published articles only. The process of searching strategy for identification of studies will include all published studies. It involved a three-stage protocol (Figure 1). The first stage will be followed by an analysis of the text words contained in the titles and abstracts and of the index terms used to describe each article. In the second stage, a Boolean search will be conducted using the identified keywords of the selected databases. In the third stage, the reference lists of key articles will be searched for additional studies.

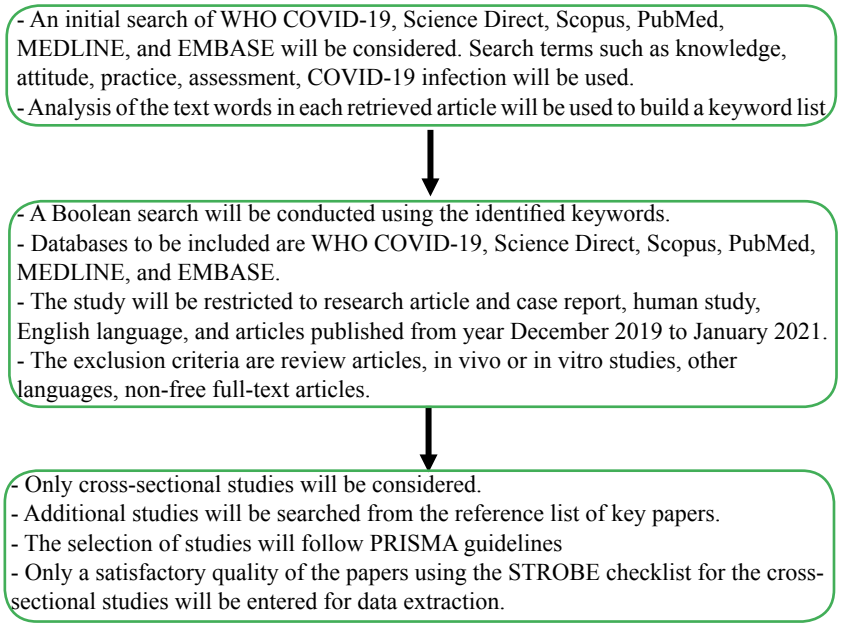

Figure 1: A schematic of the process of the systemic review (Cross-sectional studies); Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA))

Published articles

The published articles referring to any article have been published in peer-reviewed indexed journals. The first step is to locate the published articles for this research using a computer-based information search. The established databases to be searched in this review will be WHO COVID-19, Science Direct, Scopus, PubMed, MEDLINE, and EMBASE. The references of the chosen studies will be analysed manually by all four researchers to obtain additional research articles for this review.

Boolean search will be performed on each database using the search term: "COVID-19" AND ("assessment" OR "questionnaire" OR "survey") AND ("knowledge" OR "attitude" OR "practice"). The published literature will be carefully searched for this study. An initial limited search of WHO COVID-19, Science Direct, Scopus, PubMed, MEDLINE, and EMBASE data bases will be undertaken.

Screening Title and Abstract

Study screening and selection of potentially eligible studies will be conducted by at least two independent researchers. Titles and abstracts of studies retrieved using the above-mentioned search strategy will be downloaded into the reference manager tool, Endnote software. The citations were organized accordingly. When all researchers agreed on a suitable title and abstract, the full text of the article will be retrieved. Duplicated articles will be deleted using Zotero software. This was performed by one reviewer, via the "Find and Remove Duplicate References" function at first, followed by manual screening, as some of the same articles were entered slightly differently into different databases. After duplication of articles is removed, articles will be assessed for eligibility independently by two reviewers in two stages. In the first stage, the title and abstract of search results will be screened and assessed for relevance. In the second stage, the full text of potentially relevant publications will be retrieved and reviewed for inclusion. Both stages of the study selection will be performed independently by two reviewers and cross-validated to assess for disagreements. The list of studies included and excluded based on the inclusion and exclusion criteria described earlier was cross-validated to assess for disagreements. If there was disagreement between both reviewers a third reviewer will be assigned.

Besides, the duplication of the studies will be identified and deleted. The coding studies guide will be used to screen for relevant articles and theses. Theoretically, study screening looking for suitable titles and abstracts will be conducted by at least two independent researchers. When all researchers have agreed on the suitable title and abstract, the articles were considered for full-text retrieval. The articles which did not fulfil the criteria were excluded from the study.

Obtaining Full-text Published Articles Studies

All published articles will be searched. Full-text articles will be obtained and downloaded from the established resources (WHO COVID-19, Science Direct, Scopus, PubMed, MEDLINE, and EMBASE) with a search term. Articles searched in this study were only obtained in a free article. The articles without full text will be excluded from the study.

Selecting Suitable of Full-text Published Articles

The process of selecting suitable full-text published articles will be done and selected by the three reviewers who are experts in methodology and the topic under review. An agreement of inclusion and exclusion criteria will be made before starting the review process. It will be reported using PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow diagram [18]. Then, valid articles will be assessed for their quality before retrieving information. Any disagreements between the reviewers will be resolved through discussion and consideration to the fourth reviewer. The agreement will be assessed using Kappa statistics. The value of kappa with more than 0.80 is considered a good agreement.

Critical Appraisal

Three independent researchers will perform the critical appraisal to assess study quality and minimise bias. Most methods encompass issues such as the appropriateness of study design to the research objective. The articles which do not fulfil the poor-quality studies will be excluded or discussed in detail. The methodological quality of the studies will be assessed using the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) for a cross-sectional study. Any disagreements between the reviewers will be resolved through discussion and consideration to the fourth reviewer. The agreement between the two independent research will be assessed using Kappa statistics. The value of kappa with more than 0.80 is considered a good agreement.

Data extraction

Two independent researchers will perform data extraction to establish inter-rater reliability and avoid data entry errors. Study context factors of published articles will include the information describing the study and its subjects. Reported findings of the remaining studies will be extracted onto a data extraction form. Lists of included studies will be then created. Data extraction will be independently cross-checked.

Data Management

All relevant articles will be manually coded in the spreadsheets and described in evidence tables. The electronic spreadsheets will be utilised to import the data into excel form for data analysis.

Results

The outcome measures reported in studies meeting the inclusion criteria will be grouped under the following headings: country, questionnaire items, study population, language, number of items in each domain (knowledge, attitude, and practice), and the validity and reliability of each domain.

Analysis

Descriptive analysis

A narrative synthesis of the outcomes of the selected studies will be presented in the final review. This will include the following: the country where the study was conducted, questionnaires items, study population, language used in the questionnaire, number of items in each domain (knowledge, attitude, and practice), and the validity and reliability of each domain.

Statistical Analysis

We are interested in the assessment of the knowledge, attitude, and practice on COVID-19 infection. Data will be analysed using descriptive statistics. The numerical outcomes will be analysed using mean and standard deviation. The categorical outcomes will be analysed using frequency and percentage. The statistical analysis will be performed using Statistical Package of Social Science Version 27.

Discussion

This systematic review of KAP measurement tools will provide a detailed summary of the existing tools used to assess the KAP levels towards COVID-19 in different settings and populations. Besides, the review also will evaluate the reliability and validity of the assessment tools used in measuring the knowledge, attitude, and practice in various settings and countries. We anticipate that this review will be helpful to the stakeholders and researchers seeking a valid and reliable assessment tool on KAP of COVID-19 and improving the methods of data collection in the future. This comprehensive review also provides evidence on the importance of the reliability and validity of the assessment tools in ensuring quality data from future research.

List of Abbreviations

KAP – Knowledge, Attitudes and Practices

PRISMA - Preferred Reporting Items for Systematic Reviews and Meta-Analyses

STROBE - Strengthening the Reporting of Observational Studies in Epidemiology

Declaration

Ethics approval

Formal ethical approval is not required as primary data will not be collected.

Consent for publication

Not applicable

Availability of data and materials

Not applicable

Competing Interests: The authors declare that they have no competing interests.

Funding

This study protocol development was supported by the MyRA Research Grant 2020 from the Universiti Teknologi MARA, with Project Code: 600-RMC/MYRA 5/3/LESTARI (109/2020)

Acknowledgements

The authors thank the reviewers of the manuscript for their constructive feedback.

Reference

1. World Health Organization, W. Naming the coronavirus disease (COVID-19) and the virus that causes it. 2020 2 November 2020]; Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it.
2. Eurosurveillance Editorial, T., (2020). Note from the editors: World Health Organization declares novel coronavirus (2019-nCoV) sixth public health emergency of international concern. *Euro Surveill, 25*(5).
3. Worldometers.info. COVID-19 CORONAVIRUS PANDEMIC. 2021 10 May 2021 10 May 2021]; Available from: https://www.worldometers.info/coronavirus/.
4. Ministry of Health, M. R-NAUGHT MALAYSIA 08/05/2021. 2021 9 May 2021 10 May 2021]; Available from: http://covid-19.moh.gov.my/kajian-dan-penyelidikan/nilai-r-malaysia/0521/r-naught-malaysia-hari-ini-08052021.
5. World Health Organization. (2020). Regional Office for, E., Pandemic fatigue: reinvigorating the public to prevent COVID-19: policy considerations for Member States in the WHO European Region. *World Health Organization*. Regional Office for Europe: Copenhagen.
6. World Health Organization, (2014). W., KNOWLEDGE, ATTITUDES, AND PRACTICES (KAP) SURVEYS DURING CHOLERA VACCINATION CAMPAIGNS: Guidance for Oral Cholera Vaccine Stockpile Campaigns, W.g.o.M. Evaluation, Editor. p. 1-41.
7. Cordina, M., M.A. Lauri, and J. Lauri, (2021). Attitudes towards COVID-19 vaccination, vaccine hesitancy and intention to take the vaccine. *Pharm Pract (Granada). 19*(1): p. 2317.
8. Reuben, R.C., et al., (2020). Knowledge, Attitudes and Practices Towards COVID-19: An Epidemiological Survey in North-Central Nigeria. *J Community Health*, : p. 1-14.
9. Bachok, N., A.K. Ghazali, and R. Hami, (2021). Knowledge, Awareness, Attitude and Preventive Behaviour on the Transmission of the Pandemic Novel Coronavirus Among Malaysians. *Malays J Med Sci, 28*(2): p. 106-118.
10. Hu, B., et al., (2020). Characteristics of SARS-CoV-2 and COVID-19. *Nature Reviews Microbiology*.
11. Azlan, A.A., et al., (2020). Public knowledge, attitudes and practices towards COVID-19: A cross-sectional study in Malaysia. *PLOS ONE, 15*(5): p. e0233668.
12. Al-Qerem, W.A. and A.S. Jarab, (2021). COVID-19 Vaccination Acceptance and Its Associated Factors Among a Middle Eastern Population. *Front Public Health, 9*: p. 632914.
13. Abdul Momin Kazi, W.K., (2012). Questionnaire designing and validation. *Journal of the Pakistan Medical Association, 62*(5).
14. Tsang, S., C.F. Royse, and A.S. Terkawi, (2017). Guidelines for developing, translating, and validating a questionnaire in perioperative and pain medicine. *Saudi journal of anaesthesia, 11*(Suppl 1): p. S80-S89.
15. Lake, E.A., et al., (2021). Knowledge, attitude and practice towards COVID-19 among health professionals in Ethiopia: A systematic review and meta-analysis. *PLoS One, 16*(2): p. e0247204.
16. Yazew, B.G., H.K. Abate, and C.K. Mekonnen, (2020). Knowledge, Attitude and Practice Towards COVID-19 in Ethiopia: A Systematic Review. *Patient Prefer Adherence*, 2021. 15: p. 337-348.
17. Bekele, F., et al., (2020). Patterns and associated factors of COVID-19 knowledge, attitude, and practice among general population and health care workers: A systematic review. *SAGE Open Med*, 8: p. 2050312120970721.
18. Page, M.J., et al., (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ, 372*: p. n71.