Knowledge, Attitude, and Practice of COVID-19 in the General Population of the Southeastern Region in Iran

Noormohammad Noori [1], Alireza Teimouri [1, *], Manijeh Khalili [1] and Tahereh Boryri [2]

[1]Children and Adolescents Health Research Center, Research Institute of Cellular and Molecular Science in Infectious Diseases, Zahedan University of Medical Sciences, Zahedan, Iran
[2]Pregnancy Health Research Center, School of Nursing & Midwifery, Zahedan University of Medical Sciences, Zahedan, Iran

*Corresponding author: M.Phil, PhD in Demography, Children and Adolescents Health Research Center, Research Institute of Cellular and Molecular Science in Infectious Diseases, Zahedan University of Medical Sciences, Zahedan, Iran. Tel: +98-16743111, Email: alirezateimouri260@gmail.com

Abstract

Background: It is necessary to determine the knowledge, attitudes, and practices (KAP) of the coronavirus disease 2019 (COVID-19) epidemic for good management and intervention.

Objectives: The current study aimed to evaluate the KAP of the public population regarding COVID-19 in the southeastern region of Iran.

Methods: A self-constructed questionnaire based on the literature was developed. The items were asked from the participants via a telephone interview in Zahedan, Iran, during September and October 2020. This study evaluated the association of demographic and socioeconomic information using KAP scales. The data were analyzed using SPSS software (version 20.00). A significance level of 0.05 was considered for the study.

Results: A total of 524 participants accepted to have an interview via telephone in the study. About 17% and 10.10% of the participants had poor and excellent knowledge, respectively. Moreover, 72.9% and 66.6% of the respondents had good knowledge and attitude, respectively. The practice was good in 42.4% of the participants. Overall, 73.3% of the subjects had good KAP. Gender had a significant association with attitude toward COVID-19 ($\chi^2 = 18.85$; P < 0.001). Place of living did not have any significant association with all scales and overall KAP. Marital status had a significant association with attitude ($\chi^2 = 15.89$; P = 0.003), practice ($\chi^2 = 9.60$; P = 0.048), and KAP ($\chi^2 = 18.64$; P < 0.001) of COVID-19. Education had a significant association with attitude ($\chi^2 = 19.58$; P = 0.012), practice ($\chi^2 = 20.26$; P < 0.001), and KAP ($\chi^2 = 28.98$; P < 0.001) regarding COVID-19. Occupation had a significant association with knowledge ($\chi^2 = 26.94$; P < 0.001), practice ($\chi^2 = 15.65$; P = 0.017), and KAP ($\chi^2 = 22.29$; P < 0.001) regarding COVID-19.

Conclusions: The majority of the participants had great knowledge, a positive state of attitude, and acceptable practice. Although the findings are reasonable, it is recommended that the public should proceed to reinforce knowledge, attitude, and practice regarding COVID-19.

Keywords: Knowledge, Attitude, Practice, COVID-19, General Population

1. Background

Knowledge, attitudes, and practices (KAP) surveys are representatives of a particular occasion that occurred in a specific culture. Knowledge assortment about what the local area populace knows, accepts, and does identified with a specific point generally helps the approach creators with providing the best care for the issue happening locally (1). The KAP studies might be utilized to find prerequisites, inconveniences, and hindrances in program conveyance, just as an answer for improving the quality and availability of administrations (2). Additionally, the gathered knowledge empowers program chiefs to

set program needs, address the most well-known issues, or distinguish explicit subgroups that might contrast with different groups, assess assets needed for different exercises, choose the best correspondence channels and messages, build up gauge levels, and quantify change that results from mediations (2).

A KAP review can be directed anytime during control exercises; however, it is generally useful whenever led in the beginning stages of happening an occasion (1, 2). Knowledge is typically evaluated to perceive how far local area information is compared to a specific idea (2). In medical problems, commonplace inquiries incorporate

information about the causes and side effects of the disease under scrutiny (3). The attitude as a part of the KAP study has been identified as a settled way of thinking or feeling and acting with a certain goal in mind in a given occasion that occurred. Accordingly, demeanor is a result of an unpredictable association of convictions, sentiments, and qualities. Practices in KAP ordinary audits enquire almost the utilization of preventive measures or differing therapeutic administration choices. Regularly, theoretical inquiries are posed; accordingly, it scarcely allows proclamations about acceptable practices; rather, it establishes data on individuals' practices based on their knowledge (2, 3).

Coronavirus disease 2019 (COVID-19) is another general medical issue that is quickly spreading from Wuhan in China to the remainder of the world (4). The range of COVID-19 goes from mellow weariness and dyspnea to serious appearances, such as acute respiratory distress syndrome, myalgia, fever, dry cough, septic shock, disseminated intravascular coagulation, and acute renal failure (4). As indicated by the World Health Organization's late report (June 18, 2020), COVID-19 has been affirmed in all nations, with approximately 8,242,999 positive cases and more than 445,535 affirmed passing cases. In addition, this pattern was approximately 195,051 positive cases, with more than 9,185 affirmed passing cases in Iran for a similar date (5). The virus is transmitted through direct contact with an infected individual's breath droplets (6). Individuals also can be infected by touching surfaces infected with the virus and touching their face (e.g., eyes, nose, and mouth) (7). The COVID-19 virus might also live on surfaces for a few hours; however, easy disinfectants can kill the virus (6).

Older individuals and those with chronic conditions, including diabetes and coronary artery disease, are more prone to growing intense symptoms (8). As that is a type of new virus, researchers are nevertheless gaining knowledge of approximately the way it impacts humans and animals of any age to be infected with the virus (9). There are numerous medical trials that are being performed to assess the capability of therapeutics for COVID-19 (10, 11). Similarly, as with other respiratory diseases, general well-being measures are basic to moderate the spread of sicknesses (9, 12-18).

2. Objectives

In view of all the above-mentioned issues, it was proposed to perform this study that evaluated the KAP overview regarding COVID-19 on the population of Zahedan, the capital of Sistan and Baluchestan province, Iran.

3. Methods

This cross-sectional survey was conducted using a telephone interview to understand KAP regarding COVID-19 in Zahedan, Sistan, and Baluchestan province, Iran, during September and October 2020.

3.1. Study Measurement Tool

A researchers' made questionnaire from the literatures of the conducted studies around the world was applied. The queries were translated into the Persian language by two freelance Persian-speaking translators. A pre-final Persian questionnaire was developed once checking out the variations in understanding common words after a joint meeting with two translators and authors. This pre-final survey instrument was distributed arbitrarily to choose college members to assess its quality and appropriateness (scores of 0 to 4), and refinements were made as needed to facilitate higher comprehension and arrange the items before the ultimate survey was distributed to the study population.

The form contained 39 queries, with 6 items concerning demographic and socioeconomic parameters together with age, gender, marital status, education, occupation, and place of living, 23 items regarding knowledge, 5 items regarding attitude, and 5 items regarding the practice of COVID-19. Closed items were used for all KAP scales, such as knowledge. The answers were classified as true, false, and I do not know.

The knowledge items were as follows:

1. K1: The most important clinical symptoms of COVID-19 are fever, fatigue, dry cough, and muscle aches.

2. K2: Not similar to influenza, runny nose, fluid of nose, and sneezing are less common in those infected with the COVID-19 virus.

3. K3: There is not any effective treatment for COVID-19; however, symptomatic and adjuvant early treatment will facilitate most patients getting over the infection.

4. K4: Disposable gloves are often effective in preventing COVID-19 infection.

5. K5: COVID-9 is deadly.

6. K6: COVID-19 symptoms appeared in 14 days.

7. K7: The flu vaccine is adequate to forestall COVID-19.

8. K8: Not everybody with CIVID-19 is a severe case. Only elders with chronic diseases and obese individuals are more at risk.

9. K9: Ingestion or contact with wild animals will result in infection with the COVID-19 virus.

10. K10: COVID-19 is assumed to be originated from bats.

11. K11: COVID-19 is often transmitted through the airway, contact, stool, and mouth.

12. K12: If the mask is rotten, touching it with your hands can scale back the speed of COVID-19 infection.

13. K13: Individuals with COVID-19 will not transmit the virus to others if they do not have a fever.

14. K14: The COVID-19 virus is spread by breathing droplets of infected individuals.

15. K15: Normal individuals can wear medical masks to stop COVID-19 infection.

16. K16: Youngsters and adults are not required to take action to prevent COVID-19 infection.

17. K17: To stop COVID-19 contamination, individuals ought to avoid jammed places (e.g., train stations) and public transportation.

18. K18: Separating and treating individuals infected with COVID-19 are effective ways by which to scale back the spread of the virus.

19. K19: Those who are in contact with an individual infected with COVID-19 ought to be removed immediately.

20. K20: Throughout the outbreak, feeding meat that cooked well is safe.

21. K21: Patients should share their recent travel dates with healthcare suppliers.

22. K22: Make clean instrumentality and workplaces in wet markets a minimum of once a day.

23. K23: Washing your hands with soap and water will facilitate stopping COVID-19 transmission.

In the section on attitude, five closed items with a 5-point Likert scale were used, which might be ascertained below.

1. A1: COVID-19 is finally controlled with success.

2. A2: We will win the battle with COVID-19.

3. A3: COVID-19 ends up in pneumonia, respiratory failure, and death.

4. A4: Verified care by WHO is the current treatment for COVID-19.

5. A5: Hand hygiene, covering the nose and mouth once coughing, and stopping contact with a COVID-19 patient can facilitate the prevention of COVID-19 transmission.

In the section of practice, the responses were classified with the answers yes or no to the following items that would be ascertained:

1. P1: In recent days, have you ever worn a mask once you have left home?

2. P2: Have you ever been to any crowded places in recent days?

3. P3: Did you observe a distance of 1 or 1 and 0.5 meters with others while awaiting the visit today?

4. P4: Do you wash your hands with soap and water before eating?

5. P5: Do you use any means potential to stop the virus from spreading through sneezing or coughing at home?

For the 23 items that were related to knowledge, the maximum and minimum scores were 46 and 0, respectively. The item with a "true" answer scored 2, and the answer "I do not know" scored 1. For the mistaken answer, the item scored 0.

The items evaluating attitude toward COVID-19 were related to the five classes of answers, namely strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree. Every strong positive and negative response was assigned a score of 5 and 1, respectively. For the five items related to attitudes, the maximum and minimum scores were 25 and 5, respectively.

Likewise, in the practice section, a total of five items were included, which consisted of respondents' performance regarding COVID-19. Good and bad practices scored 1 and 0, respectively. In the same manner, for the five items in the practice category, the maximum and minimum scores were 5 and 0, respectively. The combined level of KAP was classified as consistent with every respondent's score.

To categorize the knowledge, attitude, practice, and total KAP scores, mean and standard deviation (SD) were regarded as the following structure:

From the minimum value to mean -1SD, from mean -1SD to mean +1SD, and from mean+ 1SD to the maximum attributed to poor, good, and excellent, respectively.

The knowledge scores were categorized as 10 - 32.27 (poor), 32.27 - 42.01 (good), and 42.01 - 45.00 (excellent). The attitude scores were categorized as 5 - 18.03 (poor), 18.03 - 24.11 (good), and 24.11 - 25.00 (excellent). The practice scores were categorized as 0.00 - 3.39 (poor), 3.39 - 4.22 (good), and 4.22 - 5.00 (excellent). The total KAP scores were categorized as 36.00 - 55.67 (poor), 55.67 - 69.19 (good), and 69.19 - 74 (excellent) (Table 1).

The content validity of the questionnaire was confirmed by experts in health regarding the important concepts of COVID-19. The questionnaire was then piloted with 30 respondents for its acceptableness and consistency. Minor modifications were required once

Table 1. Mean, Minimum, and Maximum Scores of the Questionnaire and Minimum, Maximum, and Mean ± Standard Deviation Scores Achieved by Participants

Scales of Questionnaire	Minimum Score of the Questionnaire	The maximum Score of the Questionnaire	The Minimum Score Achieved by Participants	The Maximum Score Achieved by Participants	Mean ± SD
Knowledge	0	46	10	45	37.14 ± 4.87
Attitude	5	25	5	25	21.07 ± 3.04
Practice	0	5	0	5	4.22 ± 0.83
Total KAP	5	76	36	74	62.43 ± 6.76

Abbreviation: KAP, knowledge, attitudes, and practices.

the pilot testing was performed. The data from the pilot study were not included in the final analysis. Because the consistency and validity of the study questionnaire were stabilized, the instrument was created obtainable for data assortment via interviews by two trained specialists.

3.2. Content Validity of the Questionnaire

To confirm and rate content validity, the item content validity index estimates for the 33 KAP items that were retained after the panelists' initial assessment ranged from 0.78 to 1.00, suggesting that these items were categorized as clear, understandable, and relevant for all items. The modified kappa (K *) values were excellent (> 0.75), which shows that the agreement between the experts was not random. The scale content validity index was 0.95, confirming the scale's content validity.

3.3. Reliability of the Questionnaire

To check the reliability of the questionnaire, Kuder-Richardson rated the internal consistency of the knowledge domain. However, the attitude and practice domains were rated by Cronbach's alpha of 0.7 or higher. The reliability obtained for the questionnaire scales was 0.78, 0.71, and 0.75 for knowledge, attitude, and practice, respectively. The overall reliability was shown with Cronbach's alpha of 0.72, which is considered acceptable as this questionnaire evaluates various dimensions that are not mutually exclusive.

3.4. Final Version of the Questionnaire

Based on the results of the above-mentioned validation steps, the final version of the questionnaire, consisting of three blocks, was provided. The first block comprises the 23 points that were retained after the confirmatory factor analysis and based on three factors, including knowledge of COVID-19, attitudes toward COVID-19, and practices of COVID-19 logs issued by responsible agents.

3.5. Ethical Approval

The study protocol was approved by the Research Ethics Board of Zahedan University of Medical Sciences (IR.ZAUMS.REC.1399.363). Written consent was also obtained from the respondents before the start of the study.

3.6. Statistical Analysis

The data were analyzed using SPSS software (version 20.00; IBM Corp., Armonk, NY, USA). Descriptive statistics for categorized variables were presented as percentage and frequency. Moreover, for the analysis, the chi-squared test was used with a P-value < 0.05 as the level of significance.

4. Results

Of the 524 studied participants, 315 and 209 subjects were female and male, respectively. Regarding the KAP and its scales, the scores for each scale and total KAP were categorized, and the results showed that 17% and 10.10% of the participants had poor and excellent knowledge, respectively. Moreover, the majority (72.90%) had good knowledge of COVID-19. Those who had poor attitudes toward COVID-19 were 16.60%; however, those with good and excellent attitudes were 66.6% and 16.8%, respectively. The practice was poor and excellent in 15.6% and 42.00% of the respondents, respectively. Approximately 42.4% of the participants had good practice regarding COVID-19. Overall, 11.8%, 73.3%, and 14.9% of the participants had excellent, good, and poor KAP toward COVID-19, respectively (Table 2). The correlation revealed significant positive linear correlations between knowledge-attitude (r = 0.295, P < 0.001), knowledge-practice (r = 0.164, P < 0.001), and attitude-practice (r = 0.143, P = 0.001).

Table 3 shows the association between gender and KAP and its scales. According to Table 3, a non-significant association was observed between gender and KAP and between gender with knowledge and practice. A

Table 2. Frequency of Participants in Total and at Each Level of Knowledge, Attitude, Practice

KAP and Its Determinants and Levels	No. (%)
Knowledge	
Poor	89 (17.0)
Good	382 (72.9)
Excellent	53 (10.1)
Attitude	
Poor	87 (16.6)
Good	349 (66.6)
Excellent	88 (16.8)
Practice	
Poor	82 (15.6)
Good	222 (42.4)
Excellent	220 (42.0)
Total KAP	
Poor	78 (14.9)
Good	384 (73.3)
Excellent	62 (11.8)
Total	524 (100.0)

Abbreviation: KAP, knowledge, attitudes, and practices.

significant association was observed between gender and attitude; accordingly, male subjects had better attitudes toward COVID-19 (P < 0.001). The KAP and its scales were not associated with the place of living. Of the married participants, the majority (73.40%) had good knowledge. Similar trends were observed for single (71.10%) and widowed or divorced (71.40) subjects with no significant association (P = 0.724). The marital status of the participants had a significant association with attitude; accordingly, most of the participants who were widowed or divorced had poor attitudes; however, the majority of married (66.80%) or single (66.90%) participants had good attitudes (P = 0.003). Most married participants had excellent and then good practices; nevertheless, this pattern for single participants was 43.8% and 40.50% indicating good and then excellent practices. These distributions showed a significant association between marital status and practice (P = 0.048). The majority of married and single participants had good KAP; nonetheless, most of the widowed or divorced participants had poor KAP regarding COVID-19 (P = 0.001) (Table 4).

Education did not have a significant association with knowledge (P = 0.085). By raising the educational level, the rate of participants with good knowledge increased (from 68.3% to 81.00%). The majority of participants with different levels of education had good attitudes; accordingly, from participants with illiterate, ninth grade, diploma, bachelor's, and master's or higher degrees, 56.1%, 64.9%, 65.3%, 70.2%, and 81.0% had good attitudes, respectively. These associations between education and attitude were significant (P = 0.012). The participants with a bachelor's degree had the highest percentage of excellent practice (48.4%), and this predominant effect was significant (P = 0.009). Among the participants who had poor KAP, illiterate participants were more (36.6%), followed by those with a bachelor's degree (16.1%). About more than half of the participants in each level of education had good KAP (P < 0.001) (Table 5).

Table 6 shows that from 105 participants with governmental occupations, 12.4%, 83.8%, and 3.8% had poor, good, and excellent KAP, respectively. From 220 jobless participants, 15.5% and 75.0% had poor and good KAP, respectively, and the remained subjects had excellent KAP regarding COVID-19. The association between KAP and type of occupation was significant (P = 0.001). Table 6 shows that of those who lived in urban areas, the majority had good knowledge, similar to those living in rural areas (P = 0.861).

5. Discussion

COVID-19 is an irresistible infection that poses a basic threat to everybody. Given the real dangers of COVID-19 and the lack of antibodies, preventive estimates play a vital role in lowering infection rates, controlling the spread of the disease, and demonstrating the need for public adherence to prevention and control measures that are influenced by KAP (12-18). A KAP review could be utilized subjectively, just as quantitative procedures. The goal was to accomplish intensive KAP of the population. Therefore, the best thing is to start with a gathering to investigate the theme and then, dependent on the data, set up an overview, select a sample, and perform an examination (12). Due to the current conditions of the pandemic, this is troublesome in the country. Moreover, due to the direness of the case, this first study was carried out through a phone interview, comprising an important investigation of KAP in COVID-19 in Zahedan, Iran.

According to the current investigation, most of the participants had good knowledge (72.9%) and good attitude (66.6%), and not exactly half of the participants had good practice (42.4%). In general, 73.3% of the participants had satisfactory KAP. In this

Table 3. Gender and Place of Living Distribution in Total and Different Levels of Knowledge, Attitude, Practice

KAP and Its Determinants and Levels	Gender		χ^2	P-Value	Place of Living		χ^2	P-Value
	Female	Male			Urban	Rural		
Knowledge			3.404	0.182			0.3	0.861
Poor	51 (16.20)	38 (18.20)			74 (16.90)	15 (17.40)		
Good	226 (71.70)	156 (74.60)			321 (73.30)	61 (70.90)		
Excellent	38 (12.10)	15 (7.20)			43 (9.80)	10 (11.60)		
Attitude			18.085	< 0.001			4.687	0.096
Poor	44 (14.00)	43 (20.60)			76 (17.40)	11 (12.80)		
Good	201 (63.80)	148 (70.80)			295 (67.40)	54 (62.80)		
Excellent	70 (22.20)	18 (8.60)			67 (15.30)	21 (24.40)		
Practice			5.178	0.075			0.756	0.685
Poor	45 (14.30)	37 (17.70)			69 (15.80)	13 (15.10)		
Good	146 (46.30)	76 (36.40)			182 (41.60)	40 (46.50)		
Excellent	124 (39.40)	96 (45.90)			187 (42.70)	33 (38.40)		
KAP			3.494	0.171			0.705	0.703
Poor	42 (13.30)	36 (17.20)			63 (14.40)	15 (17.40)		
Good	230 (73.00)	154 (73.70)			324 (74.00)	60 (69.80)		
Excellent	43 (13.70)	19 (9.10)			51 (11.60)	11 (12.80)		
Total	315 (100.00)	209 (100.00)			438 (100.00)	86 (100.00)		

Abbreviation: KAP, knowledge, attitudes, and practices.

study, gender had a high correlation with attitude toward COVID-19. Marital status and training significantly affected attitude, practice, and KAP. The occupation had a significant relationship with knowledge, practice, and KAP. Additionally, knowledge with demeanor, knowledge with training, and attitude with training had a connection. Azlan et al. (13) conducted a KAP study on COVID-19 on Malaysian public inhabitants. The results showed that gender, work, income, and place of living had a great impact on knowledge. Gupta et al. (14) demonstrated that their participants' gender had a huge impact only on practice when age and religion did not show any consequences for KAP components. Singh and Purohit (15) performed a KAP study on Indian individuals regarding COVID-19. They discovered that 80.64% of the subjects had great knowledge, and the factors of gender, place of living, education, and high-discipline occupations were fundamentally associated with high knowledge. Associated factors with attitude were female gender, middle age, higher education, and higher prestige of occupation. Accordingly, these groups of the populace had a more inspirational demeanor toward COVID-19. Concerning practice, male gender, older age,

single marital status, and lower educational level are fundamentally related to more positive practice. It was also shown that there was a strong positive relationship between knowledge and attitude, between knowledge and practice, and between attitude and practice, with the strongest relationship between practice and attitude.

Rugarabamu et al. (16) carried out an examination of KAP regarding COVID-19 on Tanzanian inhabitants. They demonstrated that the level of knowledge changed in gender groups, age groups, and schooling. Accordingly, the age range of 16 - 29 years and instruction of 4-year certification or lower did not have a compelling effect on higher knowledge. In Rugarabamu et al.'s study (16), the majority of respondents agreed that COVID-19 would finally be effectively controlled (96%). The predisposition to the latest achievement in the fight against COVID-19 showed no great differences between genders and educational levels.

Most of the participants had not visited any jam-packed spots and worn covers when going out (80.0%) lately. On inquiries identified with the transmission, practically all individuals (98%) accurately recognized that COVID-19 is communicated by respiratory beads.

Table 4. Marital Status Distribution in Total and Different Levels of Knowledge, Attitude, and Practice

KAP and Its Determinants and Levels	Marital Status			χ^2	P-Value
	Married	**Single**	**Widowed or Divorced**		
Knowledge				2.062	0.724
Poor	67 (17.00)	20 (16.50)	2 (28.60)		
Good	290 (73.40)	86 (71.10)	5 (71.40)		
Excellent	38 (9.60)	15 (12.40)	0 (0.00)		
Attitude				15.885	0.003
Poor	71 (18.00)	12 (9.90)	4 (57.10)		
Good	264 (66.80)	81 (66.90)	3 (42.90)		
Excellent	60 (15.20)	28 (23.10)	0 (0.00)		
Practice				9.593	0.048
Poor	59 (14.90)	19 (15.70)	4 (57.10)		
Good	167 (42.30)	53 (43.80)	2 (28.60)		
Excellent	169 (42.80)	49 (40.50)	1 (14.30)		
KAP				18.636	0.001
Poor	57 (14.40)	16 (13.20)	5 (71.40)		
Good	293 (74.20)	88 (72.70)	2 (28.60)		
Excellent	45 (11.40)	17 (14.00)	0 (0.00)		
Total	395 (100.00)	121 (100.00)	7 (100.00)		

Abbreviation: KAP, knowledge, attitudes, and practices.

Furthermore, some factors, such as constant diseases and weight, can prompt a genuine case. Female subjects were profoundly uncovered during a pestilence or emergency. In numerous settings, female individuals were in greater danger during the scourge since they were liable for caring for the elderly and youngsters. Akalu et al. [17] carried out a KAP overview of COVID-19 on patients with persistent diseases in Ethiopia. They showed that about 41% of the study subjects believe that visiting crowded places extremely increases the risk of affecting by the virus. Age, unskilled instructive status, provincial home, and month-to-month pay were associated with knowledge. Single marital status, ignorance, rustic home, less attention, and helpless knowledge were associated with the helpless practice.

Rios-González [12] carried out a quick KAP overview of COVID-19. They discovered more participants with revised responses for knowledge associated with gender, age group, marital status, training, occupation, and place of living. Accordingly, female gender, never wedded status, college level of instruction, government employment, and place of living had higher scores of knowledge. Perspectives were associated with gender, age group, marital status, instruction, occupation, and place of living. Additionally, Rios-González demonstrated that attitudes had a relationship with knowledge regarding COVID-19. Moreover, they showed a strong relationship between practice with age group, marital status, instruction, occupation, and place of living. Likewise, they showed that training had a relationship with knowledge of COVID-19. They discovered the chance to demonstrate that the knowledge of COVID-19 in the populace during the flare-up was worthy, perspectives have generally been good, and practices are, for the most part, satisfactory. Nevertheless, it is important to actualize enormous training efforts, expand the extent of knowledge about COVID-19, and stop its spread.

With the assistance of the populace and well-being specialists, it is conceivable to pause and diminish COVID-19 cases throughout the Paraguayan region. Tasnim et al. [18] showed that 54.87% of their study subjects had great knowledge. Accordingly, knowledge changed with age, gender, schooling level, home, month-to-month family pay, and marital status. Nonetheless, the occupation did not show a significant association in this regard. They proposed that a part of their populace

Table 5. Educational Level Distribution in Total and Different Levels of Knowledge, Attitude, and Practice

KAP and Its Determinants and Levels	Educational Level					χ^2	P-Value
	Illiterate	Ninth Grade	Diploma	Bachelor's	Master's and Higher		
Knowledge						13.889	0.085
Poor	13 (31.7)	17 (15.3)	29 (15.3)	26 (16.1)	4 (19.0)		
Good	28 (68.3)	83 (74.8)	137 (72.1)	117 (72.7)	17 (81.0)		
Excellent	0 (0.0)	11 (9.9)	24 (12.6)	18 (11.2)	0 (0.0)		
Attitude						19.575	0.012
Poor	12 (29.3)	16 (14.4)	24 (12.6)	32 (19.9)	3 (14.3)		
Good	23 (56.1)	72 (64.9)	124 (65.3)	113 (70.2)	17 (81.0)		
Excellent	6 (14.6)	23 (20.7)	42 (22.1)	16 (9.9)	1 (4.8)		
Practice						20.258	0.009
Poor	12 (29.3)	13 (11.7)	23 (12.1)	32 (19.9)	2 (9.5)		
Good	18 (43.9)	52 (46.8)	91 (47.9)	51 (31.7)	10 (47.6)		
Excellent	11 (26.8)	46 (41.4)	76 (40.0)	78 (48.4)	9 (42.9)		
KAP						28.979	< 0.001
Poor	15 (36.6)	12 (10.8)	22 (11.6)	26 (16.1)	3 (14.3)		
Good	25 (61.0)	91 (82.0)	135 (71.1)	116 (72.0)	17 (81.0)		
Excellent	1 (2.4)	8 (7.2)	33 (17.4)	19 (11.8)	1 (4.8)		
Total	41 (100.0)	111 (100.0)	190 (100.0)	161 (100.0)	21 (100.0)		

Abbreviation: KAP, knowledge, attitudes, and practices.

had a satisfactory knowledge of COVID-19. Nevertheless, demeanor and practice were not great during the pandemic. Al-Hanawi et al. (19) revealed that most of their participants were at the trained level about COVID-19. Additionally, they discovered inspirational attitudes and great practices. They noticed a significant relationship among gender, attitude, and practice scores, and there were no differences in knowledge scores. The place of living did not show a great relationship with knowledge. However, they found a significant relationship between places of living and attitude and practice scores. This finding is practically similar to the findings of the current investigation that discovered satisfactory levels of knowledge, attitude, and practice.

At the moment, the alarming spread of COVID-19 is a major public problem on the planet. To date, no treatment or antibodies have been identified against COVID-19. Therefore, anticipation is the best arrangement. Successful anticipation and control of COVID-19 are achieved through a larger population. Good practice in Zahedan could be due to the ability to afford the masks and the abundance of masks and could mainly be attributed to the lack of strict prevention and control measures by the local government, such as banning public gatherings and wearing a mask. Furthermore, the good practice of this study is due to the less serious situation of COVID-19. Almost in all of the studies taken together, the correct answers to the knowledge-related items were not surprising among the participants. Knowledge of the disease is considered the first stepping stone to any health education that is undertaken and increases the likelihood that individuals will become more aware of the spread of communicable diseases and the preventive measures taken to curb them. The positive connection observed between knowledge, previous education, and age supports the present study's claim.

5.1. Study Limitations

The main limitation of the present study was that it used fewer demographic variables. Therefore, further studies should be carried out in the near future to look

Table 6. Occupation Distribution in Total and Different Levels of Knowledge, Attitude, and Practice

KAP and Its Determinants and Levels	Occupation				χ^2	P-Value
	Jobless	**Governmental**	**Army**	**Self-employment**		
Knowledge					26.941	< 0.001
Poor	39 (17.7)	16 (15.2)	6 (27.3)	28 (15.8)		
Good	169 (76.8)	84 (80.0)	14 (63.6)	115 (65.0)		
Excellent	12 (5.5)	5 (4.8)	2 (9.1)	34 (19.2)		
Attitude					10.166	0.118
Poor	37 (16.8)	20 (19.0)	7 (31.8)	23 (13.0)		
Good	139 (63.2)	72 (68.6)	14 (63.6)	124 (70.1)		
Excellent	44 (20.0)	13 (12.4)	1 (4.5)	30 (16.9)		
Practice					15.464	0.017
Poor	27 (12.3)	17 (16.2)	8 (36.4)	30 (16.9)		
Good	105 (47.7)	39 (37.1)	3 (13.6)	75 (42.4)		
Excellent	88 (40.0)	49 (46.7)	11 (50.0)	72 (40.7)		
KAP					22.287	0.001
Poor	34 (15.5)	13 (12.4)	6 (27.3)	25 (14.1)		
Good	165 (75.0)	88 (83.8)	14 (63.6)	117 (66.1)		
Excellent	21 (9.5)	4 (3.8)	2 (9.1)	35 (19.8)		
Total	220 (100.0)	105 (100.0)	22 (100.0)	177 (100.0)		

Abbreviation: KAP, knowledge, attitudes, and practices.

at KAP regarding COVID-19 in different populations or societies in general.

5.2. Conclusions

To sum up, there is an acceptable level of KAP in the Zahedan population regarding COVID-19. The KAP levels and their scales did not change with gender; however, attitudes changed. The KAP levels and scales changed due to education; nevertheless, knowledge did not change. The KAP levels and scales changed with occupation; nonetheless, attitudes did not change. In addition, KAP levels and scales changed with marital status; however, knowledge did not change. Although the results are acceptable, it is suggested that individuals continue to strengthen their knowledge, attitude, and practice regarding COVID-19.

Acknowledgments

Footnotes

Informed Consent: Written consent was obtained from the respondents before the start of the study.

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