

# Impact of Educational Intervention on Knowledge, Attitude and Practice Towards covid-19 among the students of Pharmacy Profession

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## ABSTRACT:

**BACKGROUND AND AIM:** Since SARS-CoV-2 is a potential healthcare threat other than the burden of increased work hours and physical, mental stress that requires attention. The objective of this study is to evaluate the impact of educational intervention on knowledge, attitude and practice towards Covid-19. **METHODS:** A questionnaire based educational intervention study conducted among pharmacy students. Findings were recorded in the spreadsheet and interpreted using descriptive statistical methods. P value <0.001 was considered as statistically significant value and paired t-test to compare the mean scores. **RESULTS:** The pre/post questionnaire was completed by 221 participants in which majority of them belonged to age group 18-19(63.3%) and least among age group 24-25(1.8%). Our study showed increased in mean total score of knowledge from  $6.35 \pm 1.704$  to  $8.12 \pm 1.495$ , attitude from  $14.38 \pm 2.664$  to  $16.89 \pm 2.066$  and practice from  $16.98 \pm 3.192$  to  $18.59 \pm 2.254$ . Thus, the level of good knowledge, practice and positive attitude was improved with highly statistically significant value (P <0.001). **CONCLUSION:** Our study found that, there is remarkable improvement in knowledge, attitude and practice on post intervention. There is a requirement of regular educational intervention to provide awareness about Covid-19 in all areas of health domains.

**KEYWORDS:** Educational Intervention, Covid-19, Knowledge Attitude and Practice, Pharmacy Profession.

## I. INTRODUCTION

The Covid-19 is serious respiratory illness caused by corona viruses. A first corona virus case was detected in China in December 2019<sup>[9]</sup>. The international taxonomy of viruses named Covid-19 as a severe acute respiratory syndrome corona virus 2 (SARS-Cov-2)<sup>[4]</sup>. The world health organization

(WHO) declared the Covid-19 as a public health emergency on 30<sup>th</sup> January 2020<sup>[6]</sup>. The most common symptoms experienced by infected persons are fever, cough, fatigue, shortness of breath, sorethroat, headache and rashes on skin. Geriatrics and patients with co-existing condition like diabetes mellitus, cancer, renal disorder and heart disease are more likely to develop serious illness. Covid-19 is a potential healthcare threat other than the burden of increased work hours and physical, mental stress that requires attention. Hence SARS-Cov-2 is highly contagious disease require effective implementation of control measures. KAP study is one of the suitable ways, that helps in assessment of baseline knowledge and behavioral practice. Pharmacy profession plays a key role in health education to correct information and wrong belief about spread of Covid-19 in community. Therefore, the study aimed to assess the impact of educational intervention on knowledge, attitude and practice towards Covid-19 among students of pharmacy field.

## II. METHODOLOGY

### Study design and participants:

The pre/post questionnaire-based study was performed by an educational intervention to estimate the improvement of KAP towards Covid-19 among pharmacy students for a period of six months from September 2020-february 2021. The sample size was computed through open Epi software version-2 by assuming that the participants have adequate knowledge of 82.9% absolute precision=5, thus we got sample size was 221. The inclusion criteria consisted of participants age more than 18 years and who are voluntarily agreed to participate in the study. Priorly, informed written consent from each participant was taken followed by assessing baseline KAP using questionnaires. Providing awareness to the participants through an educational intervention

tools like power point presentations, awareness videos, leaflets referring WHO guidelines for Covid-19 and lastly assessed for impact of intervention using same KAP questionnaires.

#### Data gathering form:

Pre examined designed data collection form was used to gather data from study participants.

#### Questionnaires:

The set of questions were designed in objective response questions and yes/no/no response types both in English and regional language for better knowing of the participants.

The questionnaire was comprised with two parts, one part consists of demographic characteristics like age, gender, education and contact number with pre-screening questionnaires related to Covid-19. Part two consisted with 10 questions each assessing KAP. The questionnaire was related to the epidemiology, clinical manifestation, personal perceptions, insecurity, responsibility and prevention towards Covid-19 and the questionnaire was completed by 221 participants.

#### Measurement and scoring:

In case of knowledge questions, a correct response received a score of one, while an incorrect response received a score of zero, making the total knowledge ranged from 0 to 10. The knowledge score was broken down into three categories: poor, average, and good, with scores between 8 and 10 denoting good knowledge, scores between 5-7 denoting average knowledge, and scores 0 to 4

denoting low knowledge. The questions pertaining to attitude and practice were responded with a yes, no, or no response, with a total score of 0-20 for both categories. The scoring system for attitude was interpreted in terms of negative attitude (range 0-8), neutral attitude (range 9-14) and positive attitude (range 15-20). The total practice score ranged between 0-8 denoted poor practice, between 9-14 as average practice between 15-20 as good practice.

#### Statistical analysis:

For data analysis, the statistical package for the social sciences (SPSS) and open Epi software (version 2) were used. The data were entered into the MS Excel spreadsheet programme. The answers to the KAP questions for COVID-19 were compiled using descriptive statistical techniques. For continuous data, descriptive statistics were expanded as means, standard deviations, and percentages, whereas for categorical variables, frequencies were used. P values below 0.05 were deemed statistically significant, and P values above 0.001 were deemed extremely significant. To compare the means, a paired t-test was employed.

### III. RESULTS

The pre-structured questionnaire was completed by 221 individuals in total. Participants were split 50.7% male and 49.3% female, which is roughly equivalent to the gender ratio. Majority of study participants belonged to age group 18-19 years (63.3%) and least were in the age group 24-25 (1.8%) (Table:1).

Table 1: Demographic details of participants

Age in Years	Male N (%)	Female N (%)	Total N (%)
18-19	73(52.14%)	67(47.85%)	140(63.34%)
20-21	28(49.12%)	29(50.87%)	57(25.79%)
22-23	9(45%)	11(55%)	20(9.04%)
24-25	2(50%)	2(50%)	4(1.80%)

#### Knowledge:

Using 10 questions to assess knowledge of Covid-19 before and after the educational intervention, it was determined that participant understanding was higher than it had been. Because of the educational intervention study's success in lowering the percentage of poor knowledge from 15.4% to 4.1% and increasing the percentage of good knowledge from 25.8% to 76.9%, the mean total knowledge score for participants increased

significantly after the study from  $6.35 \pm 1.704$  to  $8.12 \pm 1.495$  with a highly statistically significant P-value of  $<0.001$  (Table: 2&3).

#### Attitude:

Participants attitude towards Covid-19 were measured with 10 items. Since the study was successful in reducing the proportion of negative attitude from 8% to 0% and increasing the percentage of positive attitude from 49.3% to

87.8%, the mean attitude score after the educational intervention study increased significantly from  $14.38 \pm 2.664$  to  $16.89 \pm 2.006$  with a P-value of  $<0.001$  it shows that the study was highly statistically significant (Table: 2&3).

**Practice:**

Regarding participants' practical knowledge of Covid-19, there was improvement.

The study's mean total practice score was significantly higher after the intervention ( $18.59 \pm 2.254$ ) than it was before ( $16.98 \pm 3.192$ ) due to the fact that it was successful in raising the percentage of good practice from 75.5% to 92% and reducing the percentage of poor practice from 3% to 0.4% and the P-value for this impact was extremely statistically significant P value of  $<0.001$ (Table: 2&3).

Table 2: Comparison of Pre/Post Intervention of KAP Scores

Score	Pre-Intervention N (%)	Post-Intervention N (%)
<b>Knowledge Score</b>		
Good (8-10)	57 (25.8%)	170 (76.69%)
Average (5-7)	130 (58.8%)	42 (19%)
Poor (0-4)	34 (15.4%)	9 (4.1%)
<b>Attitude Score</b>		
Positive (15-20)	109 (49.3%)	194 (87.8%)
Neutral (9-14)	104 (47.1%)	27 (12.2%)
Negative (0-8)	8 (3.6%)	0
<b>Practice Score</b>		
Good (15-20)	167 (75.5%)	92 (91.85%)
Average (9-14)	51 (23.1%)	17 (7.69%)
Poor (0-8)	3 (1.4%)	1 (0.45%)

Table 3: Comparison of Pre/Post Intervention mean score of KAP

Pre/Post Intervention	Mean±SD	Min-Max	t-value	P-value
<b>Knowledge</b>				
Pre-Intervention	$6.35 \pm 1.704$	2-10	-12.825	$<0.001$ (Highly Significant)
Post-Intervention	$8.12 \pm 1.495$	3-10		
<b>Attitude</b>				
Pre-Intervention	$14.38 \pm 2.664$	6-20	-11.797	$<0.001$ (Highly Significant)
Post-Intervention	$16.89 \pm 2.066$	9-20		
<b>Practice</b>				
Pre-Intervention	$16.98 \pm 3.192$	6-20	-7.350	$<0.001$ (Highly Significant)
Post-Intervention	$18.59 \pm 2.254$	5-20		

**IV. DISCUSSION**

The covid-19 pandemic increased more interest in researching the virus and putting preventive measures in place at the individual or community level because to the disease's spread and mortality. Awareness regarding Covid-19 may be affected by the disease distribution, the severity of information, education and communication methods used. The purpose of the current study, which lasted for six months, was to determine how educational intervention affected pharmacy

students' KAP toward COVID-19. Our study findings were supported with study carried out by **Gehan Abd Elfattah Atia Elasrag et al.** The knowledge scores significantly increased at post intervention compared to pre intervention, which supported the findings of this study that the educational intervention had substantial impact. The study's majority of participants were men, which is similar to the study done by **Aastha Singh et al.** Regarding knowledge, after data collection, analysis, and interpretation, the present study

revealed that 25.8% of participants received score between 8-10 which is considered as good knowledge and 15.4% of participants received score between 0-4 which is considered as poor knowledge at pre intervention, the study demonstrated that overall mean score of knowledge on Covid-19 was  $6.35 \pm 1.704$  at pre intervention. Following the effective educational intervention, a higher percentage of participants (76.9%) demonstrated good knowledge on Covid-19, whereas 4.1% of participants had bad understanding. Additionally, it was discovered that the mean knowledge score was raised to  $8.12 \pm 1.495$  with highly significant difference at P value  $< 0.001$ . These findings showed that the study was statistically significant. Regarding attitude, the result showed that 49.3% of subjects exhibit positive attitude with Covid-19 control, which is scored between 15-20. While, 3.6% of participants scored between 0-8 were considered to have a negative attitude. And the overall mean score of attitude was  $14.38 \pm 2.664$  at the baseline assessment. The results of the educational intervention show a more favorable view toward Covid-19. 87.8% of participants displayed a positive attitude which 0% of participants dropped to negative attitude. And the raise in mean score of attitude to  $16.89 \pm 2.066$  with highly significant difference at P value  $< 0.001$ . This demonstrates the value of continuing health education programmes on Covid-19. Regarding practice, according to our study, 1.4% of participants had poor practice, which was defined as scores between 0 and 8, while 75.5% of people had good practice, which was defined as scores between 15-20 on the Covid-19. And the mean score of practice was  $16.98 \pm 3.192$  at the pre intervention. After the impact of educational intervention, 92% of participants have adopted good practice while 0.4% of participants exhibited poor practice, moreover, the mean score of practice was raised to  $18.59 \pm 2.254$  indicates our study's P value was  $< 0.001$  suggests that it was extremely statistically significant. The participants were given seminars, video presentations, and pamphlets to help them understand and learn about the increase in knowledge, attitude, and practice about Covid-19 as a result of the educational intervention programme. All of these teaching resources helped KAP have a positive impact on Covid-19, leading to the acceptance of the theory. This study investigations explore the impact of proper educational intervention on improving and creating awareness about COVID-19 pandemic, even several studies focused attention on it<sup>[8,9]</sup>. The

study's primary shortcoming is that it was carried out during Covid-19's second wave, by which time the participants had already learned from the first wave's experiences and this study's advice only applies to this subset of participants who had a background in pharmacy. Because of the heavy schedule of participants, they were reluctant to take part in an educational intervention study and 7 days were organized to overcome this difficult. To address COVID-19 across all areas of health, regular educational interventions are crucial. The government has to create resources to encourage safe practices, raise public understanding about COVID-19, and dispel common misconceptions.

## V. CONCLUSION

The present study was conducted on pharmacy students by educational intervention since, as far as we are aware, only a small number of articles have been published to evaluate KAP in the context of Covid-19 among pharmacy students. The study's conclusions led to the conclusion that KAP had improved following post-exposure to educational intervention. Male and female have significantly differing practice. Individuals with less knowledge of Covid-19 were targeted to promote positive behavior and adopt good practice. While the outcomes are highly positive, there is a suggestion that people keep getting stronger in the wake of Covid-19. An educational intervention aimed at pharmacy students could be useful and good tool for raising awareness. Thus, the stated research was statistically sound. Through an educational intervention, we have tried to dispel myths and increase their understanding of and usage of Covid-19, which will aid in protecting against Covid-19.

## ETHICAL CONSIDERATION

Prior to entering the survey, each participant in our study received a briefing on the goals and benefits of the study. Additionally, individuals were told that the study was optional and that they had the right to withdraw their written informed consent at any moment.

The HSK College of Pharmacy in Bagalkot, Karnataka, India, institutional ethics committee gave its approval to the study.

## CONSENT FOR PUBLICATION

Not applicable

### CONFLICT OF INTEREST

There are no conflicts of interest, according to the author(s).

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### ABBREVIATIONS:

COVID-19: Novel Corona Virus Disease- 19

KAP: Knowledge, Attitude and Practice

SARS COV-2: Severe Acute Respiratory Syndrome Corona Virus-2

WHO: World Health Organization

SPSS: Statistical Package for Social Science

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