Assessment of Knowledge and Practice on Safe Usage of Face Masks among Housekeeping Employees in a Selected Tertiary Care Hospital

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Abstract: *The primary aim of the study was to assess the knowledge and practice of the safe usage of face masks among housekeeping employees in a selected tertiary care hospital, Thiruvananthapuram. The sample size consists of 60 housekeeping employees selected using nonprobability purposive sampling. A structured questionnaire was used to assess the knowledge on safe usage of face masks and a structured checklist was used to assess the practice on safe usage of face masks. The study reveals that 61.66% had good knowledge 35% had average knowledge, and 3.33% had poor Knowledge regarding safe usage of face masks. The study reveals that 96.66% of them had good practice, 3.33% had average practice, and none of them had poor practice on the safe usage of face masks. There is no statistically significant correlation between knowledge and practice on the safe usage of face masks.*

Keywords: Knowledge, Practice, Face mask, Housekeeping employees

1. Introduction

"When you wear a mask, you protect others and yourself. Masks work best when everyone"-WHO.[1]

The use of a face mask among healthcare workers is strongly recommended by the World Health Organisation (WHO) and the Centres for Disease Control and Prevention (CDC) as a standard for transmission-based precaution.[2]

A comprehensive understanding of infection prevention and control is essential for healthcare workers to protect themselves, patients, colleagues, and the general public from the transmission of infection.[3]

The WHO states that incorrect use and disposal of this mask may increase the transmission rate. The purpose of this study is to create more awareness regarding knowledge and practice on safe usage of face masks among housekeeping employees in a selected tertiary care hospital to limit the spread of COVID-19.[4]

2. Background of the Study

Face masks for infection prevention were introduced in the late 19th century. At the time, only a crude mask was used. Today, there are several types of medical masks on the market. The medical masks have better bacterial filtration efficiency (80%) than other face masks.[5]

A survey on compliance with wearing masks, among 3000 adults in 18 cities in India, was conducted by Apna Mask, initiated by Ekdesh. Findings revealed that 90% of the participants are aware of all the guidelines issued by India's government and other organisations to protect from COVID-19 infection. Only 44% are completely compliant in terms of wearing it correctly, and the highest among those are in the age group between 36 – 55.[6]

Wearing medical masks is one of the more effective non-pharmaceutical interventions for personal protection. For example, depending on the types of face masks, the protection rate varied from 33 to 100% in the expiratory emission process [7]

Ever since May 2020 onwards most of the world's population has lived in countries that recommended or mandated the use of masks in public; more than 75 countries have mandated the use of masks.[8]

Currently, uncertainty due to COVID-19 is persisting in many countries, including India is using face masks in their pandemic control plan. Being highly prevalent, the correct use of these face masks is particularly important, as incorrect use and disposal may increase the rate of transmission. The purpose of this study was to investigate the knowledge and practice of housekeeping employees in wearing a face mask to limit the spread of the new coronavirus disease.

Statement of the Problem
A study to assess the knowledge and practice on safe usage of face masks among housekeeping employees in a selected tertiary care hospital, Thiruvananthapuram.

Objectives
- Assess the knowledge and practice of safe usage of face masks among housekeeping employees.
- Find the correlation between knowledge and practice on safe usage of face masks among housekeeping employees.
- Find the association between knowledge and practice on the usage of a face mask with selected socio-personal variables.

3. Operational Definitions

Knowledge
Knowledge refers to the awareness regarding the safe usage

and handling of face masks, which is assessed by a structured knowledge questionnaire.

Practice
Practice refers to the performance of activities that enhance the safe usage of face masks, which is measured by a structured practice checklist.

Safe usage of a face mask
It refers to the act of wearing a face mask over the face that covers the nose, mouth, and chin, followed by selecting the appropriate type and size, hand hygiene, putting on, positioning the elastic band, and proper disposal.

Housekeeping employees
Refers to the employees who are working in the housekeeping department of **KIMS**HEALTH, Thiruvananthapuram.

Assumption
Safe usage of face masks may enhance the good health of housekeeping employees.

Hypothesis
- H1: There is a significant relationship between knowledge and practice on the safe usage of face masks among housekeeping employees.
- H2: There is a significant association between knowledge of safe usage of face masks among housekeeping employees and selected socio-personal variables such as age, gender, educational status, and year of experience.
- H3: There is a significant association between the practice of safe usage of face masks among housekeeping employees and selected socio-personal variables such as age, gender, educational status, and year of experience.

4. Methodology

Research Approach:
Quantitative research approach

Research Design:
Non-experimental descriptive research design

Site and Setting of the Study:
KIMSHEALTH, Thiruvananthapuram

Population

Target population:
Housekeeping employees

Accessible Population
Housekeeping employees working in KIMSHEALTH, Thiruvananthapuram.

Sample
- **Sample technique**: Nonprobability purposive sampling technique
- **Sample Size:** 60

Criteria for Sample Selection

Inclusion criteria
Employees who can read and understand Malayalam or English

Exclusion criteria
Employees who are not available at the time of data collection.
Employees who are not willing to participate in the study.

Research Tool
The structured questionnaire consists of two sections

Tool 1
Section A: Socio-personal variables
Socio-personal variables include age, gender, educational status, and years of experience.

Section B: Structured Questionnaire to assess the knowledge on safe usage of face masks.
The structured knowledge questionnaire to assess the knowledge on safe usage of facemasks among housekeeping employees included 15 multiple-choice questions with four options each correct answer carried a score of one, and a negative answer carried a score of zero. The maximum score is 15, and the minimum score is 0.

Knowledge	Score
Poor knowledge	<5
Average knowledge	6-10
Good knowledge	11-15

Tool 2
Structured checklist to assess the practice of safe usage of face masks
The structured practice checklist to assess the practice of safe usage of masks among housekeeping employees consists15 of closed-ended questions; each correct answer carries a score of one, and the negative answer carries a score of zero. The maximum score is 15, and the minimum score is 0. The scores obtained were tabulated as follows.

Practice	Score
Poor practice	<5
Satisfactory practice	6-10
Good practice	11-5

Pilot Study
A pilot study was conducted among housekeeping employees at KIMS College of Nursing, Thiruvananthapuram. The investigators obtained approval from the Institutional Review Board (IRB) and formal permission from the Principal, KIMS College of Nursing, Thiruvananthapuram. The investigators met the participants individually and explained the purpose of the study. After obtaining their consent, the researcher assessed the knowledge and practice on safe usage of face masks among housekeeping employees using a structured knowledge questionnaire and practice checklist.

Data Collection Procedure
Permission to conduct the study was obtained from the Institutional Review Board (IRB), formal permission from the Principal, KIMS College of Nursing,

Thiruvananthapuram, and the Senior Manager- Facility, **KIMS**HEALTH, and the Director-Supporting Service, **KIMS**HEALTH. The data was collected from 60 housekeeping employees working in **KIMS**HEALTH, Thiruvananthapuram. The researcher met the participants who fulfilled the inclusion criteria by selecting a non-probability purposive sampling technique. Detailed information about the study was explained to the participants using the participant information sheet. After obtaining informed consent from the participants, the tools were administered. The knowledge questionnaire and practice checklist were distributed among the subjects, and they were given time to answer the questions. It took around 1 hour to collect the data from each housekeeping employee. Data was collected from around 20 housekeeping employees per day. The total data collection period was three days.

Data Analysis
The data were analysed using descriptive and inferential statistics.

Descriptive statistics
Socio-personal variables were analysed using descriptive statistics.

Inferential statistics
Correlation coefficient and Fisher's Exact Test were used to find the association between knowledge and practice of face masks among housekeeping employees with selected socio-personal variables.

5. Findings of the Study

Section 1 - Distribution of subjects based on knowledge score

Table 1: Frequency distribution and percentage of housekeeping employees based on knowledge of safe usage of face masks, N=60

S. No	Category	f	%	Mean	Standard Deviation
1	Good	37	61.66%		
2	Average	21	35%	10.65	2.040
3	Poor	2	3.33%		

Table 1 shows that 37 (61.66%) of housekeeping employees had good knowledge, 21 (35%) had average knowledge, and 2 (3.33%) had poor knowledge of safe usage of face masks.

Section 32- Distribution of subjects based on practice score.

Table 2: Frequency distribution and percentage of housekeeping employees based on the practice of safe usage of face masks, N=60

S. No	Category	f	%	Mean	Standard Deviation
1	Good	58	96.66%		
2	Average	2	3.33%	13.41	1.430
3	Poor	0	0		

Table 2 shows that 58 (96.66%) of housekeeping employees had a good practice and 2 (3.33%) had average practices on safe usage of face masks

Section 3- Correlation between knowledge and practice on safe usage of face masks among housekeeping employees.

Table 3: Correlation between knowledge and practice on safe usage of face mask, N=60

Category	Mean	Standard Deviation	Karl Pearson's correlation Co-efficiency(r)
Knowledge	10.65	2.040	0.12056
Practice	13.41	1.430	

Table 3 shows that there is no statistically significant correlation between knowledge and practice on the safe usage of face masks.

6. Discussion

The analysis and interpretation of data were done by using descriptive statistics. Among 60 samples, 37 (61.66%) had good knowledge, 21 (35%) had average knowledge, and 2 (3.33%) had poor knowledge. In practice, the majority of the sample had good practice 58, 96.66%), and 2 (3.33%) had average practice and none of them had poor practice. The result is an outcome that is generated from each objective and hypothesis. In the study in knowledge majority of the sample included in the age group of 21- 30 years that is 30 (50%), 24 (40%) belonging to the age between 31- 40 years, 6 (10%) belonging to 41-50 years of age group and none of them had in the age between 51- 60years. In sex, the majority of participants were female category, 35 (58.33%), and 25 (41.66%) were included in the male category. In education, the majority of employees included in higher secondary education22 (36.6), 20 (33.33%) had in primary education,15 (25%) had in secondary education and 3 (5%) had graduated. In years of experience the majority of employees had below one year 35 (58.33%) 18 (30%) had 1-5 years of experience,4 (6.66%) had 5-10 years and 3 (5%) had above 10 years of experience.

It shows that there is no correlation between knowledge and practice on the safe usage of face masks among housekeeping employees.

It shows there is a significant association between knowledge and socio-personal variables such as age, gender, educational status, and year of experience and there is no significant association between knowledge and sex. There is a significant association between practice and socio-personal variables such as age, gender, educational status, and year of experience.

7. Conclusion

The present study was conducted to assess the knowledge and practice of safe usage of face masks among housekeeping employees in tertiary care hospital, in Thiruvananthapuram. The findings of the study have been discussed in terms of objectives, theoretical base, and hypotheses. In the present study, data were collected from 60 samples. The study findings show that there was a significant association between knowledge and socio-personal variables such as age, educational status, and year of experience and there was no significant association between knowledge and sex. There

was a significant association between practice and socio-personal variables such as age, gender, educational status, and year of experience.

Nursing Implications

The investigator has drawn the following implications from the study which is a vital concern to the field of nursing practice, nursing education, nursing administration, and nursing research.

Nursing Practice

- Nurses should have contemporary knowledge and practice regarding the comprehensive way of preventing and managing respiratory infections by using a face mask. Nurses should organize health education sessions on the safe usage of face masks for housekeeping employees.
- Staff nurses should be encouraged to conduct or attend seminars/workshops to improve the knowledge and practice on safe usage of face masks. Continuing education programs should be conducted regularly for healthcare workers to update them on the recent advances in the safe usage of face masks.

Nursing Administration

- Nursing administration must utilize maximum resources including budget to facilitate safe usage of face masks.

Nursing Education

- The topic of safe usage of face masks should be given pride of place in the nursing curriculum and syllabus. Health workers should be exposed to various aspects that improve the knowledge and practice of safe usage of face masks.
- Student nurses should be equipped with current knowledge in this regard by conducting journal clubs, workshops, seminars, and panel discussions, and identifying the role of safe usage of face masks.

Nursing Research

- Nursing research can replicate this study with a large sample to get better results.
- Carefully planned interventional study be done to evaluate the effectiveness of teaching programs on knowledge and practice on safe usage of the face mask.

8. Limitations

- The study was confined to housekeeping employees in a tertiary care hospital, in Thiruvananthapuram.
- The study was confined to 60 samples only. So, it is difficult to draw generalizations.
- The time framework of the study was limited.

9. Recommendations

- A community-based study can be done to assess knowledge and practice on the safe usage of face masks with a large sample.
- An interventional study can be conducted among the same samples to evaluate the effectiveness of structured teaching on the safe usage of face masks.

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