ASSESSING VACCINE HESITANCY THROUGH A KAP (KNOWLEDGE, ATTITUDE, PRACTICE) SURVEY FRAMEWORK

Executive Summary

This case study explores how a **Knowledge, Attitude, and Practice (KAP)** survey can be used to understand the underlying causes of **vaccine hesitancy** in a defined population. Using hypothetical but structured survey data from 500 respondents, the case walks through questionnaire design, Likert scale interpretation, cross-tabulation, and basic inferential statistics. This format supports student learning in public health survey analysis and response planning.

1. Introduction

Vaccine hesitancy has emerged as a major public health challenge, especially during mass immunization drives like those for COVID-19. A KAP survey is a practical tool used to assess public perception and behavior towards health interventions and is especially useful for tailoring health communication strategies.

2. Target Population and Sample Design

- **Population**: Adults aged 18–60 in an urban neighborhood
- **Sample Size**: 500 respondents
- **Sampling Method**: Stratified random sampling (by age and gender)

3. KAP Questionnaire Structure

Section	Sample Question Example	Scale Type
Knowledge	"Vaccines can prevent severe illness."	True / False
Attitude	"I trust the safety of the COVID-19 vaccine."	5-point Likert (Agree–Disagree)
Practice	"Have you taken the COVID-19 vaccine?"	Yes / No

4. Descriptive Summary

Knowledge Score Distribution (out of 5 questions)

Score Range	% of Respondents
0–1	6%
2–3	34%
4–5	60%

Attitude Summary

Statement	% Agree	% Neutral	% Disagree
"Vaccines are safe."	55%	23%	22%
"Government information is trustworthy."	41%	29%	30%
"Side effects are exaggerated by media."	33%	25%	42%

Practice

- **Vaccinated**: 72%
- **Unvaccinated**: 28%

5. Cross-tabulation: Attitude vs Practice

Attitude Category	% Vaccinated	% Unvaccinated
Positive	87%	13%
Neutral	66%	34%
Negative	45%	55%

6. Statistical Analysis

Chi-square Test:

Association between **attitude** (positive/neutral/negative) and **vaccination status**

- **Chi-square value**: 38.24
- **p-value**: < 0.001
- **Interpretation**: Statistically significant association between attitude and practice

7. Key Findings

- Higher **knowledge scores** are correlated with positive attitudes
- **Mistrust in government information** is a leading driver of hesitancy
- **Perceived side effects** are not the top barrier—**trust** is more critical
- **Positive attitude** group had nearly double the vaccination rate of the negative group

8. Visuals

Figure 1: KAP Framework Diagram

(A triangle showing flow: Knowledge → Attitude → Practice)

Figure 2: Likert Bar Chart on Attitude Statements

(Grouped bars showing % Agree, Neutral, Disagree for each item)

Figure 3: Vaccination Rate by Knowledge Score

(Line graph showing positive trend)

9. Strategic Implications

Intervention Area	Recommendation
Communication	Focus on trusted messengers (doctors, community leaders)
Education	Short videos, infographics on how vaccines work
Policy	Reduce friction – easy booking, post-vaccine support
Monitoring	Repeat KAP surveys to track sentiment shifts

10. Learning Outcomes for Students

- Design and interpret a public health KAP survey
- Understand basic data visualization for perception studies
- Conduct and interpret chi-square association testing
- Translate survey results into actionable public health strategies

11. References

- WHO (2014). *KAP Survey Model: Knowledge, Attitudes, and Practices*
- Larson, H. et al. (2016). *The Vaccine Confidence Gap* – The Lancet
- CDC (2021). *Framework for COVID-19 Vaccine Confidence*
- Green, E. et al. (2022). *Social Trust and Vaccine Hesitancy* – Public Health Journal