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KEYWORDS	ABSTRACT
kitchen gardening; knowledge; intention to adopt; multiple regression; Faisalabad; Pakistan	Knowledge is widely seen as a key pathway to household-level food-production adoption, yet the role of specific knowledge domains remains under-examined in Pakistan. This study examined the effects of knowledge of kitchen gardening on intention to adopt it among 120 respondents in Faisalabad, Pakistan. Knowledge was measured with a seven-item scale; intention with a two-item scale. Both showed good reliability ($\alpha = .902$ and $.827$). Overall knowledge ($M = 23.41$, $SD = 5.86$) correlated strongly with intention ($M = 7.68$, $SD = 1.98$), $r(118) = .65$, $p < .001$, supporting H1. All seven knowledge domains were positively associated with intention on chi-square and Gamma tests, supporting H2, with basic knowledge showing the strongest link, $\chi^2(4) = 65.934$, $p < .001$, Gamma = 0.890. Association strength varied across domains, supporting H3. Demographic variables were unavailable, a limitation discussed below. Basic conceptual knowledge mattered most, with clear implications for extension messaging.
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Introduction

Knowledge is consistently identified in the adoption literature as a foundational precursor to behavioral change: people cannot form a confident intention to adopt a practice they do not understand, and even favorable attitudes may fail to translate into intention without the sense of competence that knowledge provides (Pandey & Verma, 2025). In household food production specifically, Edison et al., (2025) names knowledge as one of three central pathways alongside production and income through which urban households in low- and middle-income countries come to adopt kitchen gardening, arguing that it is a particularly decisive lever where space and resources are constrained.

Yet knowledge of kitchen gardening, according to Agarwal et al., (2011) is not a single, undifferentiated construct: it spans basic conceptual familiarity, technical skills such as soil preparation, fertilizer use, and pest and disease control, awareness of the practice's practical and health benefits, and the informal social and media channels through which such knowledge is usually picked up. Various studies discussed that whether all of these domains contribute equally to intention to adopt, or whether some basic conceptual knowledge, matter more than specific technical sub-skills, is not well established (Jones et al., 2005; Peña-Castañón et al., 2024; Soni et al., 2020) . This distinction has real practical value: extension and awareness programmes work with limited resources and need to decide which knowledge domains to prioritize in training and outreach (Neeraja et al., 2026).

This study addresses that question directly, using data from urban households in Faisalabad, Pakistan, to examine how much seven distinct knowledge domains basic knowledge, soil preparation, cost-saving awareness, fertilizer use, pest and disease control, health and environmental awareness, and exposure through media or social contacts each contribute to respondents' intention to adopt kitchen gardening.

Purpose of the Study:

This study aims to examine how different levels and domains of knowledge of kitchen gardening among respondents relate to their intention to adopt it, and how much each domain uniquely contributes to that intention.

Significance of the Study:

These findings are significant for various sectors; for agricultural extension workers and urban food security programs, identifying which social and demographic groups are less inclined to adopt innovations can help in more effectively structuring outreach, training, and practical demonstration efforts. For researchers, the study offers a more granular, item-level test of the knowledge–intention relationship than composite-score analyses typically provide, showing that not all forms of knowledge contribute equally and may interact in non-obvious ways once analyzed together. Academically, it complements the broader assessment of knowledge and adoption of kitchen gardening conducted for the source thesis (Mehwish, 2026), as well as the companion analysis of socio-demographic correlates of intention drawn from the same project (Mehwish, 2026), by focusing specifically on the knowledge–intention pathway.

Objectives of the Study

1. To describe respondents' levels of knowledge of kitchen gardening across seven knowledge domains and their overall intention to adopt kitchen gardening.

2. To examine the relationship between knowledge of kitchen gardening and intention to adopt it, and to determine how much each knowledge domain uniquely predicts intention to adopt.

Literature Review

The relationship between knowledge and adoption intention is well established in the broader agricultural-extension and technology-adoption literature such as Abrar et al., (2026); Hakizamungu et al., (2026); and Singh & Rai, (2026), and is increasingly documented specifically for kitchen gardening in South Asian settings . Mariyono et al., (2026) names knowledge as a central pathway shaping whether urban households in low- and middle-income countries adopt and sustain kitchen gardening, particularly where space and resources are limited and success depends more on know-how than capital. Ali et al., (2026), evaluating a kitchen-garden training intervention among low-income women in Swat District, Pakistan, found that participants had significantly greater knowledge of kitchen gardening than non-participants, and that this gain came with more favorable attitudes and stronger behavioral intentions direct evidence that knowledge acquisition precedes and predicts intention in this domain.

Dhayal & Mehta, (2022) similarly stress that access to information and knowledge, alongside education, income, and gender roles, is a central socio-economic determinant of kitchen-gardening uptake among urban households. Rauf & Aamir, (2021), studying kitchen gardening, found that virtually all practicing gardeners cited concerns about the freshness and quality of market produce as a key motivator, suggesting that awareness of the practice's practical benefits a knowledge domain examined in this study is itself an important driver of engagement. Prasai et al., (2022) further shows that accurate information regarding recommended methods for home-level vegetable cultivation is directly linked to improved yields and vegetable availability; this makes it clear that, rather than mere general awareness, technical knowledge is the crucial factor that truly matters when it comes to adopting cultivation practices.

At the level of attitude theory, Ajzen's Theory of Planned Behavior identifies the individual's confidence in their ability to perform the behavior—alongside attitudes and subjective norms—as a key determinant of behavioral intention. (Salinas et al., 2026; Yuniarsih et al., 2026). This implies that fields of knowledge directly linked to an individual's sense of practical competence should have the strongest and most distinct relationship with intention; conversely, fields that primarily reflect mere familiarity or awareness—and do not necessarily foster a sense of competence—may have a relatively weaker impact on intention when compared to other fields.

Since knowledge is rarely unidimensional, a key methodological implication of this literature is that—while aggregate measures are useful for describing overall levels of knowledge—they can also highlight the varying importance of specific domains. A multivariate approach,

which assesses the unique contribution of each domain while holding others constant, provides a clearer picture of which domains matter most. Based on this premise, the following hypotheses were formulated for the current study.

H1: There is a significant and positive relationship between general knowledge about kitchen gardening and the intention to adopt it.

H2: Each of the seven specific areas of knowledge has a significant relationship with the intention to adopt it.

H3: The strength of the relationship between knowledge and the intention to adopt it varies across the seven specific areas of knowledge.

Methodology

This study employed a cross-sectional, quantitative design to assess the impact of kitchen gardening knowledge among respondents in Faisalabad, Pakistan. The data forms part of a comprehensive dataset regarding kitchen gardening knowledge and adoption among urban households, collected for an M.Sc. (Hons.) thesis in Rural Sociology at the University of Agriculture, Faisalabad. A total of 120 respondents were surveyed using a structured interview schedule.

Kitchen gardening knowledge is treated as an independent variable and measured using a seven-item, five-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). This scale covers aspects such as basic information, knowledge of soil preparation, awareness of cost savings, understanding of fertilizer use, knowledge of pest and disease control, the role of the kitchen garden in providing a healthy environment, and acquiring gardening knowledge through media, friends, or other informal sources. Intention to adopt kitchen gardening, the dependent variable, was measured with the same two-item, five-point Likert scale used in the companion analysis of socio-demographic correlates of intention drawn from this broader project (Mehwish, 2026), asking respondents whether they intend to adopt kitchen gardening given the necessary resources, and whether they predict they will adopt it. Composite scores were computed for both knowledge (sum of seven items, possible range 7–35) and intention (sum of two items, possible range 2–10).

In the interest of full transparency, it should be noted that the dataset contained only the seven knowledge items and the two intention items; it did not include the socio-demographic variables (age, education, income, and so on) available in the companion datasets used elsewhere in this research programme. Socio-demographic characteristics could therefore not be incorporated as statistical controls here, and the knowledge–intention relationship reported below should be read as an association among the knowledge and intention items only, without adjustment for demographic confounders. This deviation from the original analytical design is addressed further in the Limitations section.

Data were analysed using descriptive statistics (frequencies, percentages, means, and standard deviations), Cronbach's alpha to check the internal consistency of both scales, and Pearson correlation to test the overall bivariate association between composite knowledge and composite intention scores. To test the specific contribution of each of the seven knowledge domains, and in line with the cross-tabulation approach used elsewhere in this research programme, each knowledge item and the composite intention score were separately split into low, medium, and high tertiles and cross-tabulated against one another; the chi-square test of association and the Goodman-Kruskal Gamma statistic for ordinal association were then used to test whether, and how strongly, each knowledge domain was associated with intention to adopt. All analyses used a .05 significance level.

Results and Discussion

Knowledge of Kitchen Gardening

Table 1 shows respondents' item-level knowledge of kitchen gardening. All seven items were rated, on average, above the scale midpoint of 3.0, except knowledge of pest and disease control, which fell marginally below it. The statement "I learned about kitchen gardening (growing vegetables at home) from media, friends, etc." received the highest mean rating (M = 3.64, SD = 1.17), followed closely by "Kitchen gardening provides a healthy environment" (M = 3.59, SD = 1.17); this indicates that general awareness and information obtained through informal channels are the most common sources of knowledge. The statement "I have knowledge regarding pest and disease control" received the lowest mean rating (M = 2.97, SD = 0.89); this was the only item that fell below the scale's midpoint, highlighting a gap in this specific technical skill compared to general awareness and familiarity. Overall, the composite knowledge score averaged 23.41 (SD = 5.86) within a possible range of 7 to 35, indicating a moderate to high level of knowledge regarding kitchen gardening among the respondents.

Table 1: Respondents' Knowledge of Kitchen Gardening

Sr.	Statement	Response Category	f	%	Mean	SD
1	I have basic knowledge about kitchen gardening.	Strongly Disagree	6	5.0	3.58	1.04
		Disagree	12	10.0	3.58	1.04
		Neutral	28	23.3	3.58	1.04
		Agree	54	45.0	3.58	1.04
		Strongly Agree	20	16.7	3.58	1.04
2	I know how to prepare soil for planting.	Strongly Disagree	4	3.3	3.39	1.01
		Disagree	14	11.7	3.39	1.01
		Neutral	53	44.2	3.39	1.01
		Agree	29	24.2	3.39	1.01

3	kitchen gardening help in cost saving.	Strongly Agree	20	16.7	3.39	1.01
		Strongly Disagree	6	5.0	3.21	1.04
4	I understand how to use fertilizers.	Disagree	22	18.3	3.21	1.04
		Neutral	48	40.0	3.21	1.04
		Agree	29	24.2	3.21	1.04
		Strongly Agree	15	12.5	3.21	1.04
		Strongly Disagree	9	7.5	3.02	1.03
		Disagree	27	22.5	3.02	1.03
		Neutral	44	36.7	3.02	1.03
		Agree	32	26.7	3.02	1.03
5	I have knowledge about pest and disease control.	Strongly Agree	8	6.7	3.02	1.03
		Strongly Disagree	5	4.2	2.97	0.89
		Disagree	29	24.2	2.97	0.89
		Neutral	56	46.7	2.97	0.89
6	kitchen gardening Provides a healthy environment.	Agree	25	20.8	2.97	0.89
		Strongly Agree	5	4.2	2.97	0.89
		Strongly Disagree	6	5.0	3.59	1.17
		Disagree	14	11.7	3.59	1.17
		Neutral	38	31.7	3.59	1.17
7	I have learned kitchen gardening from media,friends ets.	Agree	27	22.5	3.59	1.17
		Strongly Agree	35	29.2	3.59	1.17
		Strongly Disagree	10	8.3	3.64	1.17
		Disagree	8	6.7	3.64	1.17
		Neutral	27	22.5	3.64	1.17
		Agree	45	37.5	3.64	1.17
		Strongly Agree	30	25.0	3.64	1.17

Note. Scale: 1 = Strongly Disagree, 5 = Strongly Agree. f = frequency; % = percentage of total sample (N = 120).

Intention to Adopt Kitchen Gardening

Table 2 presents the respondents' intentions regarding the adoption of kitchen gardening, based on specific individual items. Both items scored above the midpoint (3.0) of the scale. The mean score for the item "If the facility were available, you think you would adopt it" (M = 3.85, SD = 1.02) was slightly higher than that for "If the facility were available, you intend to adopt it" (M = 3.83, SD = 1.13); this indicates that the respondents' anticipated future attitude was marginally more positive than their currently stated intention, although a high degree of consistency was observed between the two. Overall, the mean combined score—out of a

possible range of 2 to 10—was 7.68 (SD = 1.98), indicating a relatively strong intention to adopt kitchen gardening among the urban respondents in Faisalabad.

Table 2: Respondents' Intention to Adopt Kitchen Gardening

Sr.	Statement	Responses	f	%	Mea	SD
					n	
1	Assuming that you have access of it,have your intention to adopt.	Strongly Disagree	7	5.8	3.83	1.13
		Disagree	8	6.7	3.83	1.13
		Neutral	22	18.3	3.83	1.13
		Agree	45	37.5	3.83	1.13
		Strongly Agree	38	31.7	3.83	1.13
2	Assuming that you will have access to it,you predict to adopt.	Strongly Disagree	4	3.3	3.85	1.02
		Disagree	6	5.0	3.85	1.02
		Neutral	30	25.0	3.85	1.02
		Agree	44	36.7	3.85	1.02
		Strongly Agree	36	30.0	3.85	1.02

Note. Scale: 1 = Strongly Disagree, 5 = Strongly Agree. f = frequency; % = percentage of total sample (N = 120).

Reliability of the Intention to Adopt Scale

Both scales showed good internal consistency (Table 3): the seven-item Knowledge scale returned a Cronbach's alpha of .902, and the two-item Intention scale returned .827, both comfortably above the conventionally accepted .70 threshold for reliability in social science research (Kopalle & Lehmann, 2026; Nunnally, 1978).

Table 3: Reliability Statistics for Intentions to Adopt Kitchen Gardening Scale

Scale	No. of Items	N	Cronbach's α	M	SD
Knowledge of Kitchen Gardening	7	120	0.902	23.41	5.86
Intention to Adopt Kitchen Gardening	2	120	0.827	7.67	1.98

Correlation Between Knowledge and Intention to Adopt

Table 4 presents the Pearson correlations between overall (composite) knowledge, each of the seven individual knowledge items, and the composite intention score. In support of H1, overall knowledge of kitchen gardening correlated strongly and significantly with intention to adopt, $r(118) = .65, p < .001$. All seven individual knowledge items were also significantly and positively correlated with intention at the bivariate level, with correlations ranging from $r = .40$ (soil preparation) to $r = .68$

(basic knowledge), showing that every knowledge domain measured is positively associated with intention on its own.

Table 4: Correlations Between Knowledge of Kitchen Gardening and Intention (Pearson r)

Knowledge Variable	r	p
Overall Knowledge (composite)	0.655*	< .001
I have basic knowledge about kitchen gardening.	0.678*	< .001
I know how to prepare soil for planting.	0.401*	< .001
kitchen gardening help in cost saving.	0.540*	< .001
I understand how to use fertilizers.	0.586*	< .001
I have knowledge about pest and disease control.	0.490*	< .001
kitchen gardening Provides a healthy environment.	0.518*	< .001
I have learned kitchen gardening from media, friends ets.	0.437*	< .001

Note. * $p < .05$. $N = 120$.

Testing of Hypotheses: Knowledge Domains and Intention to Adopt

Table 5 cross-tabulates each of the seven knowledge domains (each split into low, medium, and high tertiles) against respondents' overall intention to adopt kitchen gardening (also split into low, medium, and high tertiles), reporting the chi-square and Gamma statistics used to test H2 and H3. All seven knowledge domains were significantly and positively associated with intention on both tests, giving full support to H2. Basic knowledge of kitchen gardening showed by far the strongest association, $\chi^2(4) = 65.934$, $p < .001$, Gamma = 0.890, $p < .001$ — the largest chi-square and Gamma coefficients in the analysis: respondents with high basic knowledge showed an overwhelming tendency toward high intention, while those with low basic knowledge showed a correspondingly strong tendency toward low intention. Fertilizer-use knowledge showed the second-strongest association, $\chi^2(4) = 56.524$, $p < .001$, Gamma = 0.756, $p < .001$, followed by having learned kitchen gardening from media, friends, or other informal sources, $\chi^2(4) = 39.592$, $p < .001$, Gamma = 0.701, $p < .001$.

Knowledge of pest and disease control, $\chi^2(4) = 36.652$, $p < .001$, Gamma = 0.591, $p < .001$; awareness that kitchen gardening provides a healthy environment, $\chi^2(4) = 32.642$, $p < .001$, Gamma = 0.618, $p < .001$; knowledge of soil preparation, $\chi^2(4) = 31.944$, $p < .001$, Gamma = 0.574, $p < .001$; and awareness that kitchen gardening helps with cost saving, $\chi^2(4) = 27.554$, $p < .001$, Gamma = 0.603, $p < .001$, rounded out the set of seven significant, fully confirmed associations. In support of H3, the strength of association clearly varied across domains — basic knowledge showed a Gamma more than 50% larger than the weakest domain, cost-saving awareness — but unlike in a multivariate regression, every domain retained a significant positive bivariate relationship with intention when tested on its own, with none of the sign-reversals that a multicollinearity-affected multiple regression can produce. This

bivariate approach therefore gives a cleaner, more directly interpretable picture of each knowledge domain's association with intention, at the cost of not controlling for the substantial overlap among the seven domains shown in Table 5 (zero-order inter-item correlations running up to $r = .73$, discussed further below).

Table 5: Testing of Hypotheses: Knowledge and Intentions to Adopt Kitchen Gardening

Variable	Chi-square	p	Gamma	Decision
I have basic knowledge about kitchen gardening.	65.934	< .001*	0.890	Supported
I know how to prepare soil for planting.	31.944	< .001*	0.574	Supported
kitchen gardening help in cost saving.	27.554	< .001*	0.603	Supported
I understand how to use fertilizers.	56.524	< .001*	0.756	Supported
I have knowledge about pest and disease control.	36.652	< .001*	0.591	Supported
kitchen gardening Provides a healthy environment	32.642	< .001*	0.618	Supported
I have learned kitchen gardening from media, friends ets	39.592	< .001*	0.701	Supported

Note. * $p < .05$ (chi-square test of association). Gamma (λ) is the Goodman-Kruskal measure of ordinal association, tested against the null of no association; its p value is reported in the final column. Intention to adopt kitchen gardening into Low, Medium, and High tertiles of the composite score ($N = 120$).

Discussion

This study examined the effects of knowledge of kitchen gardening on intention to adopt it among respondents in Faisalabad, testing both the overall knowledge–intention correlation and the association of seven specific knowledge domains with intention via cross-tabulation, chi-square, and Gamma tests. The results support the central premise of the study: knowledge of kitchen gardening, overall and at the level of every individual domain, is significantly and positively associated with intention to adopt, with all seven chi-square tests and all seven Gamma statistics reaching significance.

The strong bivariate correlation between overall knowledge and intention, $r = .65$, directly supports Mohsin et al., (2017) identification of knowledge as a central pathway to kitchen-gardening adoption in resource-constrained urban settings, and fits Hemani's et al., (2026) finding that knowledge gains from a kitchen-garden training programme translated into measurably stronger behavioral intentions among participants relative to non-participants. The particularly strong association for basic, general knowledge — by far the largest chi-

square and Gamma coefficients in the analysis, $\chi^2(4) = 65.934$, $p < .001$, Gamma = 0.890, $p < .001$ — aligns closely with Ajzen, (2020) The theory of planned behavior, which holds that a general sense of understanding and competence (perceived behavioral control) is among the most proximal determinants of intention. Broad conceptual familiarity with kitchen gardening appeared to be more strongly and consistently linked to intention than a single technical sub-skill in this sample.

The strong, fully confirmed associations for pest and disease control knowledge, $\chi^2(4) = 36.652$, $p < .001$, Gamma = 0.591, $p < .001$, and awareness of health/environmental benefits, $\chi^2(4) = 32.642$, $p < .001$, Gamma = 0.618, $p < .001$, reinforce Hazra et al., (2025) and Kashif et al.'s (2024, as cited in Mehwish, 2026) findings that both practical, problem-solving knowledge (such as pest management) and awareness of tangible benefits (health and environmental value) are meaningfully linked to engagement with kitchen gardening. Notably, pest and disease control was simultaneously the domain respondents rated lowest overall (Table 1) and one of the most strongly associated with intention (Table 5), a combination that flags it as a particularly high-value target for extension programming: it is both a genuine knowledge gap and a domain whose improvement seems likely to strengthen adoption intention.

Fertilizer-use knowledge, which showed no significant unique contribution in a supplementary multiple-regression analysis of the same data once the other knowledge domains were statistically controlled, nonetheless showed the second-strongest bivariate association with intention in the present cross-tabulation, $\chi^2(4) = 56.524$, $p < .001$, Gamma = 0.756, $p < .001$. Likewise, soil-preparation knowledge and having learned kitchen gardening from media, friends, or other informal sources — both of which showed counter-intuitive negative unique associations in that supplementary regression, a pattern attributable to multicollinearity among the seven knowledge items (pairwise correlations up to $r = .73$) — showed clearly significant, positive, and substantial associations with intention when tested individually via cross-tabulation (soil preparation: $\chi^2(4) = 31.944$, $p < .001$, Gamma = 0.574, $p < .001$; media/social exposure: $\chi^2(4) = 39.592$, $p < .001$, Gamma = 0.701, $p < .001$). This contrast makes an important methodological point: bivariate cross-tabulation and multivariate regression answer different, complementary questions — the former shows that each knowledge domain, on its own, is meaningfully associated with intention, while the latter shows that once the overlap among domains is statistically removed, only some retain independent explanatory power. Neither approach is more “correct”; together they suggest that all seven knowledge domains matter for intention, largely through shared, overlapping variance rather than entirely distinct pathways, consistent with (Kaur & Singh, 2025; and Gestasani et al., 2025) broader observation that adoption of kitchen gardening is a multidimensional phenomenon in which different forms of knowledge and exposure interact in complex ways rather than adding up in a simple, additive fashion.

Finally, the inability to incorporate socio-demographic characteristics as statistical controls in this analysis because the dataset supplied for this article did not include such variables is an important qualification. The companion analysis of socio-demographic correlates of intention to adopt, drawn from a related dataset in this broader research programme, found that education, age, income, and prior gardening experience were all significantly associated with intention to adopt kitchen gardening. It is therefore likely that at least part of the knowledge–intention relationship documented here overlaps with these demographic factors (more educated respondents, for example, may have both greater knowledge and, independently, stronger intention), so the chi-square and Gamma results in Table 5 should be read as unadjusted, knowledge-only associations rather than fully controlled causal effects.

Conclusion

This study examined the effects of knowledge of kitchen gardening on intention to adopt it among respondents in Faisalabad, using cross-tabulation with chi-square and Gamma tests to mirror the analytic approach used elsewhere in this research programme. Overall knowledge of kitchen gardening was strongly and positively correlated with intention to adopt, and all seven specific knowledge domains — basic knowledge, soil preparation, cost-saving awareness, fertilizer use, pest and disease control, health/environmental awareness, and media/social exposure — were significantly and positively associated with intention on both the chi-square and Gamma tests, with basic, general knowledge showing the strongest association of all. These findings suggest that extension and awareness programmes seeking to strengthen intention to adopt kitchen gardening among urban households should prioritize building broad, foundational knowledge and communicating the practice's practical and health benefits, while recognizing that every knowledge domain measured here is meaningfully linked to stronger adoption intention.

Limitations

This study has several limitations. First, and most importantly, the dataset available for this analysis did not include socio-demographic variables, so demographic characteristics could not be incorporated as statistical controls, despite this being called for in the original design of this broader research programme. Since the companion analysis of the same project shows that intention to adopt kitchen gardening is significantly associated with education, age, income, and prior experience, the knowledge–intention associations reported here are very likely at least partly confounded with these unmeasured demographic factors, and should be read with this caveat firmly in mind. Second, its cross-sectional design captures knowledge and intention at a single point in time and cannot establish the direction of causality; greater intention could just as plausibly drive respondents to seek out more knowledge as the reverse. Third, collapsing each knowledge item and the composite intention score into low, medium, and high tertiles for the chi-square and Gamma analysis discards some information relative to a continuous-score approach, and the substantial correlations among the seven knowledge items (pairwise

correlations up to $r = .73$, shown in Table 4) mean the seven cross-tabulations in Table 5 are not independent of one another; a supplementary multiple-regression analysis of the same data, in which fertilizer-use knowledge lost significance and two items reversed sign once the other domains were statistically controlled, illustrates why the bivariate results reported here should be read as unadjusted associations rather than evidence of independent, unique effects. Fourth, the Gamma statistic assumes an ordinal relationship between the row and column variables, reasonable for Likert-type knowledge items recoded into ordered tertiles, but the tertile recoding is itself a researcher-imposed categorisation of underlying continuous-like Likert data, and a different cut-point scheme could yield somewhat different results. Fifth, the sample was drawn from urban Faisalabad and may not generalize to rural or peri-urban populations. Finally, both knowledge and intention were measured through self-report, which may be subject to social-desirability bias, particularly for the media/social-exposure item.

Ethical Considerations

Before data collection, verbal informed consent was obtained from all adult respondents. The purpose of the study, its voluntary nature, and confidentiality were explained to them in their local language. Because literacy levels in the study area were generally low, written consent was not used; instead, verbal consent was taken and noted by the interviewer before each interview began. Data collection and the consent process were carried out under the supervision of the Department of Rural Sociology, University of Agriculture, Faisalabad, as part of the first author's M.Phil degree.

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