

ORIGINAL ARTICLE

Volunteerism as a Means of Emergency Management: A Study Among Nursing Students in India

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ABSTRACT

Introduction: Navigating challenges posed by infrastructure, vast population, geography, and diversity, India grapples with health emergency management. Volunteers stand as crucial pillars, bridging capacity gaps and confronting global health challenges. Leveraging the awareness and expertise of nursing students, this paper endeavours to anticipate the intentions of BSc final-year nursing students in Himachal Pradesh, India, towards volunteerism during health-related emergencies. **Materials and methods:** In this study, 300 questionnaires were distributed to final-year BSc nursing students in Himachal Pradesh, India, between February and August 2023. The online survey achieved a 91% response rate, with 273 participants, frequency and percentage were used to describe the respondent's characteristics and multiple regression was applied for inferential analysis. **Results:** Among 273 female nursing students, 89.4% (n = 244) had an age range of 20–25 years, and 97% (n = 265) were unmarried. 82.05% (n = 224) of students would like to volunteer in the future. The study demonstrated that the five factors used in the current study, significantly influence the intention to volunteer ($F(5, 267) = 112.092, p < 0.05$). **Conclusion:** The study delves into the psychological and social factors influencing Indian nursing students' intent to volunteer in emergencies, fostering cultural sensitivity, adaptability, and resilience. The results provide insights for effective interventions in emergency situations through volunteerism, emphasizing the mutually beneficial impact of student nurses on immediate responsiveness and long-term healthcare efficacy in the nation.

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INTRODUCTION

India confronts formidable challenges in handling health-related emergencies, driven by factors such as its diverse population, geographical variations, socioeconomic disparities, communication hurdles, and inadequate healthcare infrastructure (1,2). Addressing these challenges necessitates not only adequate preparedness, training, and a cohesive response but also a multi-faceted approach tailored to the unique intricacies of the Indian context. Volunteerism emerges as a pivotal force in managing emergency situations within the healthcare sector, where demand often surpasses available facilities and personnel. The integration of volunteers into healthcare settings are widely acknowledged as a valuable means of augmenting the existing workforce

(3). This approach facilitates the provision of care and support to a significantly larger patient population, leveraging the specialized skills and expertise that volunteers bring to the forefront (4). As exemplified during the global Covid-19 pandemic, various countries elevated their healthcare services through a compelling appeal for volunteers, highlighting the indispensable role they play in times of crisis.

According to the WHO (World Health Organization) report, nursing personnel constituted 60% of health professionals globally in 2018, making them the largest occupational group in the health sector (5). Notably, India stands out as a significant source of nurses for developed countries, ranking second only to the Philippines (6). The BSc (Bachelor of Science) Nursing program is the second-largest nursing program that students have chosen, with 24,71,222 registered nurses and midwives in India in 2021–2022 (7). With many nursing students in India, their function as emergency volunteers is crucial. Their numbers enable widespread

and effective engagement in important tasks like direct patient care, logistical support, and resource organisation. Community participation and emergency response infrastructure are strengthened by this large pool of nursing students, making the healthcare system nationwide more resilient and effective.

The concept of student volunteerism is well explored and studied in Western and European countries. Volunteering in these countries is often required due to various cultural, educational, and socioeconomic factors (8). Volunteerism is highly esteemed in cultures of the West, where there is a greater cultural focus on individualism and the exercise of human agency (9). Conversely, many Western education systems have recognised the importance of community service and volunteering, therefore incorporating it as an obligatory component within the curriculum to ensure students' involvement in such endeavours (10). In Indian context, this concept is not much explored because the educational system in India places a predominant emphasis on academic accomplishments, with comparatively less attention given to extracurricular activities such as volunteering (11). Students are usually exposed to high competition and academic performance requirements within the context of the academic setting. This frequently results in limited availability for students to participate in volunteer activities.

India has a robust tradition of community service and generosity that is firmly ingrained within its cultural and religious fabric. Volunteers can provide culturally sensitive and easily accessible healthcare services, aid disaster preparedness, and advocate for health practices in times of emergencies (12). Therefore, nursing students could become good human resources to augment health services during crises. When the Covid-19 epidemic struck, the Indian government (GOI) issued a notification advising that, if necessary, final-year nursing students be involved in the frontline response team, highlighting nursing students' proven ability to manage emergency circumstances (13). Volunteers have played an indispensable role in the public health response to the Covid-19 pandemic, contributing significantly to essential areas such as contact tracing, vaccination drives, and public health education (14,15).

Across various regions, medical and nursing students have shown a remarkable willingness to volunteer during crises, with notable instances including 77.6% of medical students in Nepal (14), 75% of nursing students in Brunei Darussalam (16), high levels of readiness among nursing students in Florida for both natural and man-made disasters (17), significant proportions in South Korea prepared to care for Covid-19 patients (18), and 95% of medical students in Saudi Arabia expressing readiness to assist during crises (19), underscoring a global commitment to public health initiatives during emergencies.

Anticipating the intentions and actions of health professionals, the Theory of Planned Behaviour (TPB) or the Theory of Reasoned Action (TRA) was the most frequently referenced (20,21). Studies in Singapore (22), Vietnam (23), China (24), and Oman (25) found that the theory of planned behaviour variables explains part of the variance in nursing and medical students' volunteer intention. Icek Ajzen developed the concept of TPB in the late 80s as a means of understanding and predicting intentional behaviour (26). The concept of theory of planned behaviour is made up of these main parts: Behaviour-related attitude (AT): People rate an action as either positive or negative. The individual's ideas regarding the behaviour's repercussions and whether they're good or bad. Subjective norms (SN): These are social pressures to do or not do something. It depends on what the person thinks other people value and how much they want to conduct themselves up to those expectations. Perceived Behavioural Control (PBC): An individual's assessment of a behaviour's ease or difficulty. It considers resources, talents, and opportunities. A person's preparation to engage in a particular conduct is known as their behavioural intention. Attitudes, subjective norms, and behavioural control affect it. Stronger intentions lead to more behaviour. While TPB focuses on intentions, it recognises that intentions are powerful determinants of behaviour, although other environmental circumstances may also contribute.

The Theory of Planned Behaviour (TPB) is ideal for predicting nursing students' intentions to volunteer, particularly in healthcare settings. TPB explains how attitudes, social pressures, and perceived control shape intentions and actions (27,28). In this study, TPB is applied alongside risk perception (RP) and altruism (ALT) to better understand volunteerism. Altruism motivates students to help others selflessly (29), while risk perception involves their evaluation of potential dangers in volunteering (30). By integrating these factors, TPB offers valuable insights into how attitudes, risks, and altruistic motives influence students' intentions to volunteer and helps identify areas for intervention to increase participation.

Studies predict nursing students' volunteerism intention during pandemics and disasters, but none in India use planned behavior theory. Further investigation is needed to effectively utilize nursing students' emergency healthcare management capabilities. Studying nursing students' volunteerism from an Indian perspective is crucial as it can effectively address health emergencies in India due to its large population, resource limitations, and diverse geography. This study aims to explore the intentions and attitudes of nursing students in India towards volunteerism during emergencies, using the theory of planned behaviour. It aims to fill a gap in existing literature and provide innovative insights into the impact of student volunteerism in India. The study operates on the foundational assumption of the

null hypothesis, positing that variables like attitude, subjective norms, perceived behaviour control, risk perception, and altruism do not exert a significant influence on the intention to volunteer among BSc final-year nursing students in Himachal Pradesh, India. The investigation into Indian nursing students' attitudes and intentions towards volunteerism aims to ascertain their readiness and willingness to contribute to health-related emergencies in the future. This analysis seeks to shed light on whether these students are prepared to actively engage in emergency response efforts within the healthcare sector.

MATERIALS AND METHODS

Design

A cross-sectional survey has been carried out among BSc final year nursing students in four districts of Himachal Pradesh (India) i.e., Shimla, Solan, Mandi, and Kangra, on the fact that these districts have the maximum number of nursing institutes in the state. A web-based questionnaire on Ajzen's guidelines (31) has been prepared based on a 5-point Likert scale (1 being strongly disagree, 2 disagree, 3 neutral, 4 agree and 5 being strongly agree). The questionnaire was prepared using Google Forms and comprises 36 questions. Of these, 8 questions focus on demographics, 4 questions are multiple choice, and 24 responses are measured on a five-point Likert scale. The subcategories include attitude (7 items), subjective norms (3 items), perceived behavioral control (4 items), altruism (4 items), intention (4 items), and risk perception (2 items). The questionnaire was customised for Indian nursing students through some modifications. It involved the simplification of language, the inclusion of initial questions regarding prior volunteer experience to assess baseline familiarity with volunteerism, and the addition of demographic enquiries tailored to the specific characteristics of Indian nursing students. The modifications implemented were aimed at improving the pertinence and comprehensiveness of the questionnaire for the designated demographic.

The sample size was calculated with a range of confidence of 95% and a tolerance of error of 5%, utilizing an online available calculator called Qualtrics® (32). For a total population of 1081, the calculated ideal sample size is 284 respondents. A total of 300 questionnaires have been distributed from January to July 2023 in four districts of Himachal Pradesh. For this study, coordinators disseminated the questionnaire to their respective class groups using a Google Forms link via WhatsApp. WhatsApp, a widely used communication platform among teachers, coordinators, and students, facilitated efficient and timely information sharing within nursing institutions. Despite the potential bias associated with the requirement of smartphone and internet access, it did not present a limitation, as all respondents had access to these resources. In the end, there were 273 voluntary responses collected, representing 91% of the

intended population.

Data collection and analysis

The Cronbach's alpha of 0.92 indicates a high level of internal reliability for the questionnaire, surpassing an acceptable level of 0.7 (33). For each of the subscales, the internal reliability is 0.84 for attitude, 0.78 for subjective norms, 0.70 for perceived behavioural control, 0.75 for altruism, 0.74 for intention, and 0.70 for risk perception, which is good (34). The quantitative analysis of data has been conducted by using SPSS (V23) (Statistical Package for Social Sciences, version 23). Utilising the method of multiple regression analysis, this study scrutinises the relationship between the intention to volunteer and several factors, including attitude towards volunteerism, subjective norms, perceived behavioural control, altruism, and risk perception. Before undertaking this investigation, permission in advance from each institute had been obtained, and all data was kept confidential. The approval from the Research Ethics Committee, Faculty of Commerce and Management, Himachal Pradesh University was obtained upon the commencement of the study [Reference No: 2-17/10-HPU(IMS)-0095].

RESULTS

There were 273 female respondents who participated in this survey. Table I demonstrated that the maximum number of participants, i.e., 89.4% (n = 244), were between the ages of 20 and 25, and 97% (n = 265) were unmarried. Most of the participants were from rural areas, i.e., 67.45% (n = 184). District Kangra having the maximum, i.e., 38.8% (n = 106) of respondents, followed by Solan 22.3% (n = 61), Mandi 22% (n = 60) and Shimla 16.8% (n = 46) districts. Approximately 45% (n = 125) of the nursing students have a family income below Rs. 30,000 (\$359.55USD).

Table I: Displays the demographic attributes of nursing students (N=273)

Characteristics	Frequency (f)	Percentage (%)
Age (in years)		
less than 20	25	9.2 %
20-25	244	89.4%
25-30	4	1.5%
Above 30	-	-
Marital Status		
Unmarried	265	97%
Married	8	2.9%
Districts of state Himachal Pradesh		
Shimla	46	16.8%
Solan	61	22.3%
Mandi	60	22%
Kangra	106	38.8%
Residing Areas		
Rural	184	67.4%
Urban	89	32.6%
Monthly Income of Family (in Rs.)		
less than 30,000	125	45.8%
30,000-40,000	80	29.3%

CONTINUE

Table 1: Displays the demographic attributes of nursing students (N=273) (CONT.)

Characteristics	Frequency (f)	Percentage (%)
Monthly Income of Family (in Rs.)		
40,000-50,000	37	13.6%
above 50,000	31	11.4%
I want to become a nurse because-		
	Yes (%)	No (%)
1.Nursing gives my life a sense of meaning.	253 (92.68%)	20 (7.32%)
2.I can earn good salary.	222 (81.32%)	51 (18.68%)
3.The occupation offers a job security.	233 (85.35%)	40 (14.65%)
4.I want to help others cope-up with illness.	263 (96.34%)	10 (3.66%)

To gain comprehensive insights into nursing students' attitudes and willingness to volunteer, we posed a series of detailed questions aimed at assessing their awareness of volunteerism, their ability to volunteer in pandemic and disaster scenarios, the types of emergency work they're inclined to undertake, and their motivations for pursuing a nursing career. The enlightening responses to these questions are discussed in detail. The majority of student nurses, 96.34% (n = 263), answered that they wanted to be nurses (Table I) because they sought to help other people cope with disease. When asked why they desire to become nurses, the vast majority of student nurses (92.68%, n = 253) stated that nursing gives their lives significance. Approximate eighty five percent (85.35%, n = 233) cited occupational safety as a primary motivator for adopting the nursing profession. Similarly, 81.32% (n = 222) of respondents mentioned the importance of earning a good wage as a nurse. In this context, it captures the deep sense of satisfaction and meaning individuals discover in the nursing field, arising from the positive influence on others, societal contribution, personal development, and moral satisfaction.

Awareness about volunteerism among nursing students According to Figure 1, a total of 24 students, which represents 8.80% of the sample, reported that they never participated in volunteering activities. A total of 249 students, constituting 91.20% of the sample, demonstrated knowledge about volunteer work and engaged in related activities in their lives. These activities included donating blood, taking care of neighbours' houses, and assisting elderly individuals in crossing roads. It is evident that the students possessed a clear understanding of the importance of volunteerism and actively participated in various informal volunteer endeavours in India.

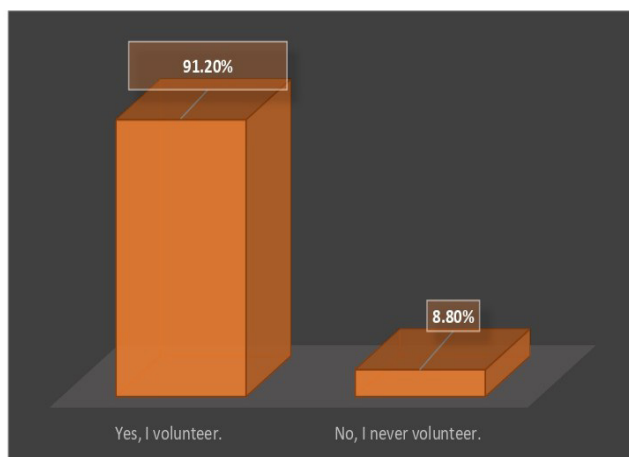


Figure 1: The volunteer experience gained by nursing students (n=273)

Capability of nursing students to volunteer according to given situations

Figure 2 shows that when nursing students were asked what kind of health emergency they would like to help out with, 80% of them (n = 219) said they could help out in both pandemic and disaster cases. However, only 15% (n = 40) of the students showed that they would be willing to volunteer during a pandemic, and only 5% (n = 14) showed that they could volunteer during a disaster.

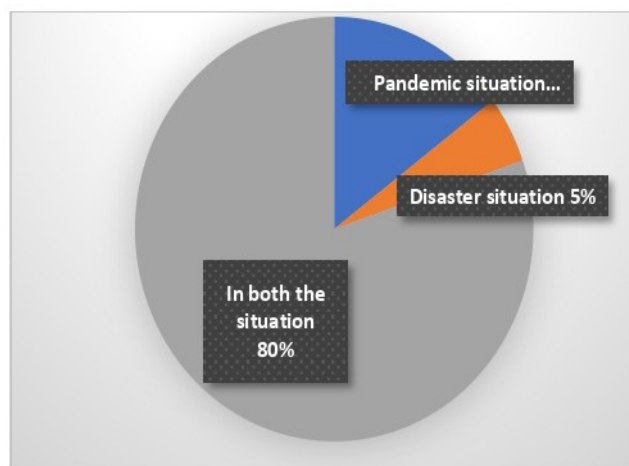


Figure 2: The willingness of nursing students in response to given situations (n=273)

Types of work that nursing students would like to do during an emergency situation

Nursing students were asked to indicate their preferred work setting if given the opportunity, and their responses were measured on a five-point Likert scale. Figure 3 shows that 27.47% (n = 75) of the students considered clinical types of work, and 29.30% (n = 79) dealing with patients, as more important than non-clinical types of

work, such as imparting health education (28.93%, n = 80), administrative duties (18.68%, n = 32), and online types of work (11.72%, n = 51).

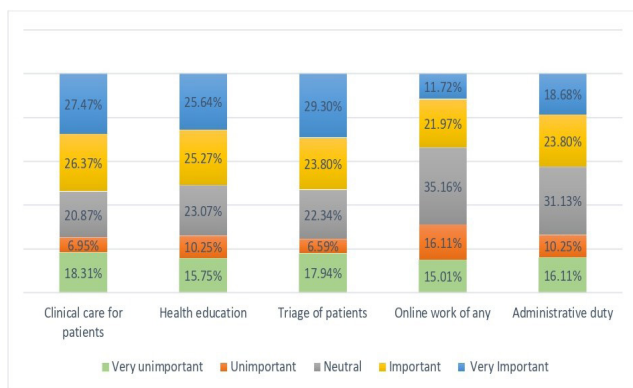


Figure 3: Responses for the type of work that nursing students would like to do during an emergency situation (n = 273)

The descriptive statistics as shown in Table II describe the mean (M) and standard deviation (SD) for dependent variable intention (M = 4.14, SD = .64) and independent variables attitude (M = 4.04, SD = .73), subjective norms (M = 4.06, SD = .74), perceived behavioural control (M = 3.78, SD = .64), altruism (M = 4.23, SD = .63), and risk perception (M = 3.80, SD = .85). Students showed positive responses for intentions to volunteer, attitude towards volunteerism, subjective norms, and altruism. Responses for intention to volunteer, attitude and subjective norms are above mean, and for risk perception and perceived behaviour, students nurses gave responses near neutral.

Table II: Statistical overview of study variables (N=273)

Variables	Mean (M)	Standard Deviation (SD)
Intention (INT)	4.14	.64
Attitude (ATT)	4.04	.73
Subjective norms (SN)	4.06	.74
Perceived behavioural control (PBC)	3.78	.64
Altruism (ALT)	4.23	.63
Risk perception (RP)	3.80	.85

In this study, multiple regression analysis (Table III) was used to examine the relationship between set of predictor variables i.e., attitude (ATT) towards volunteerism, subjective norms (SN), perceived behavioural control (PBC), altruism (ALT), risk perception (RP) and the dependent variable i.e., intention (INT) to volunteer. According to the analysis, it was found that overall regression model was significant and combination of these five factors used in study has a strong predictive power for determining the intention to volunteer. The independent variables significantly predict intention to volunteer, results from ANOVA showed F-statistics (F (5, 267) = 112.092, p ≤ 0.001), which indicate that the five factors under the study have a significant impact on intention to volunteer. With an R-squared value of .677, it can be observed that the model accounts for

approximately 67.7% of the variation in the intention to volunteer.

Table III: Summary of results of Hypotheses

Hypotheses	Regression weights	B (Unstandardized Coefficients)	t	p-value	Results
H ₁ : There is a significantly positive impact of attitude on the intention to volunteer.	ATT → INT	.146	3.535	.000**	Supported
H ₂ : There is a significantly positive impact of subjective norms on the intention to volunteer.	SN → INT	.218	3.828	.000**	Supported
H ₃ : There is a significantly positive impact of perceived behavioural control on the intention to volunteer.	PBC → INT	.171	3.157	.002*	Supported
H ₄ : There is a significantly positive impact of altruism on the intention to volunteer.	ALT → INT	.341	6.614	.000**	Supported
H ₅ : There is a significantly positive impact of risk perception on the intention to volunteer.	RP → INT	.276	5.785	.000**	Supported
R square		.677			
F (5, 267)		112.092			

Note: **p ≤ 0.001, *p ≤ 0.005, ATT: attitude, SN: subjective norms; PBC: perceived behavioural control; ALT: altruism; RP: risk perception; INT: intention to volunteer.

By examining each predictor variable's unique coefficient, the study also investigated how each predictor variable affected the criterion variable (intention to volunteer). The findings in Table III indicated that all the factors examined, including attitude, subjective norms, perceived behavioural control, altruism, and risk perception, have a significant and positive impact on the intention to volunteer. Specifically, attitude had a substantial and positive impact on intention to volunteer (B = .146, t = 3.545, p = .000). Subjective norms showed a significant and positive impact (B = .2189, t = 3.828, p = .000), and perceived behavioural control also had a significant and positive impact (B = .171, t = 3.157, p = .002).

.002) on intention to volunteer. Altruism demonstrated a significant and positive impact ($B = .341$, $t = 6.614$, $p = .000$), and risk perception also had a significant and positive impact ($B = .276$, $t = 5.785$, $p = .000$) on intention to volunteer. These findings indicate that the factors studied have a significant impact on student nurses' willingness to participate in volunteer work, implying a crucial role in influencing ones' inclination to engage in volunteer activities. A significant majority of student nurses, specifically 79.85% ($n = 218$), express a strong desire to engage in volunteer work if offered the opportunity to do so. The results showed that a large majority of participants (84.98%, $n = 232$) felt that their friends' and family's perceptions of their volunteer activity influenced their desire to volunteer. While a significant portion of 66.66% ($n = 182$) participants acknowledged the potential assistance of their current knowledge and skills in volunteering situations, the overall confidence level in these abilities was modest, as reflected in the mean score of 3.78. The study revealed that a significant majority of participants, approximately 68.49% ($n = 187$) expressed concerns about the potential dangers associated with handling emergencies. Similarly, when it came to the risk of being harmed as volunteers, about 69.59% ($n = 190$) of participants indicated that they perceived such a risk. These findings were not only favourable but also demonstrated statistical significance, as indicated by significance p -value of .000. In sum, a large portion of the participants believed that there was a risk of harm associated with volunteering. According to the presented study, the independent variable of altruism has shown a significant impact of 77.1% on individuals' intentions to volunteer. In the study, it was found that a significant majority of nursing respondents, i.e., 87.54% ($n = 239$), expressed a positive response to the idea of helping people in their community. This indicates a strong sense of altruism and love for human beings among nursing students.

DISCUSSION

The results showed a significant impact, indicating that a favourable attitude plays a crucial role in promoting volunteerism. People who have a positive outlook are more inclined to express their willingness to participate in volunteer work. The findings of the study showed that nursing students had sufficient knowledge of volunteering, and had done some kind of volunteering at some point in their lives. As most of the nursing students joined the nursing profession because they wanted to help others cope with illness, and this profession gives their lives a sense of meaning. Nursing students had joined the nursing profession to serve humanity. The same result had also been shown by Brunei nursing students, students showed a similar motivation to become nurses (16). The nursing students in the study exhibit a strong inclination for volunteering during disasters and pandemics, showcasing their resilience and preparedness to navigate challenging situations.

Their readiness to serve reflects a deep commitment to public health and community welfare, positioning them as vital frontline responders during times of crisis.

Regarding the type of work nursing students prefer in situations requiring volunteer efforts, there is a clear inclination towards clinical work over non-clinical tasks. BSc nursing students, for instance, are particularly drawn to clinical roles due to their proficiency in patient care (35,36). This preference is echoed among nursing students in various regions, where many express a desire to volunteer in clinical settings to directly assist patients (37). This highlights that the willingness to engage in clinical activities is positively influenced by their perceived competency in essential clinical skills (38). These findings underscore the importance of hands-on clinical experience in shaping the volunteer preferences of healthcare students. Overall, the current study presented a thorough analysis of the different psychological as well as social variables that impact individuals' willingness to volunteer.

The nursing students in the present study demonstrated a positive attitude towards volunteering and had experience with volunteer work in their lives. The study found that a substantial majority of student nurses expressed a strong inclination to participate in volunteer work if given the chance. Similarly, research conducted on medical students in India during the Covid-19 pandemic revealed that approximately 75.3% of respondents were strongly willing to volunteer (39). Various studies also show that nursing students possess a willingness, intention, and positive attitude towards volunteerism (40). During the Covid-19 pandemic, 71.7% of 240 nursing students in Turkey were eager to volunteer (41). These findings collectively highlight a strong willingness among nursing and medical students to volunteer, especially in emergency situations.

The current study demonstrates that all independent factors derived from the Theory of Planned Behavior (TPB) significantly predict the intention to volunteer during emergency situations, with each factor showing strong statistical significance. The TPB variables—attitude, subjective norms, and perceived behavioral control—emerge as pivotal determinants in shaping this intention. This aligns with findings from various studies which consistently highlight that these TPB predictors are instrumental in influencing individuals' willingness to engage in volunteer activities (22,23). The significant correlation between these factors and the intention to volunteer underscores the critical role of psychological and social influences in motivating healthcare professionals and students to step forward during emergencies.

Altruism emerges as the most significant predictor of the intention to volunteer, with a mean score of 4.23, surpassing all other variables. This high mean reflects

the strong inclination of nursing students towards altruistic motives, underscoring their intrinsic desire to help others. The data reveals that majority (263 out of 273) of nursing students participated in the study with the primary goal of aiding individuals in overcoming illness. This altruistic drive accounts for 34.1% of the total variation in the intention to volunteer among these nursing students. The profound impact of altruism on volunteer intentions is further corroborated by findings from various sources. For instance, one study noted that 97.8% of students were more willing to volunteer for altruistic reasons than for other motivations (15). This aligns with the notion that healthcare personnel, when driven by a genuine concern for the welfare of others, demonstrate a stronger commitment to volunteering, even under stressful conditions, as seen in the example of healthcare workers caring for Covid-19 patients who maintained a low-stress inclination due to their professional dedication (19). This suggests that the innate desire to contribute positively to the wellbeing of others significantly enhances the propensity to volunteer.

Furthermore, the findings as shown in Table II and III, also indicate that perceived social standards have a major influence on people's inclinations to volunteer. Expectations from the social circle frequently have an impact on volunteering. These findings align with prior research, which shows that people adjust their behaviors based on social norms and peer influence (42), with a qualitative study among nursing students in the USA highlighting the significant influence of family on decision-making and willingness (43), and another study in Malaysia showing that subjective norms significantly influence students' volunteering intentions, reinforcing their importance as a predictor (44).

In the presented study it is evident that attitude, subjective norms, intention, and altruism surpass the mean score, reflecting the strong inclination of nursing students towards volunteerism driven by positive attitudes, social influences, and altruistic motives. Conversely, perceived behavioral control and risk perception were rated below the mean score, indicating a notable lack of self-assurance among participants. Many participants assigned themselves average scores (3.78) when evaluating their knowledge, skills, and abilities. This uncertainty is indicative of a broader trend observed in various regions, where healthcare students and professionals express doubts about their capabilities to manage emergency situations effectively (45). Previous studies have shown that adequate disaster preparedness training significantly enhances the inclination to volunteer in emergencies (46). This training is crucial in building confidence and ensuring that healthcare providers feel capable of handling crises. The observed hesitancy among participants in this study aligns with earlier research, which highlighted the importance of preparedness and skill acquisition in healthcare settings (47,48), as seen in Nepal, where participants admitted

that their existing knowledge and skills might be useful in volunteer situations but still lacked confidence in their abilities (14), underscoring the critical role of self-efficacy in volunteerism and suggesting that enhancing individuals' confidence in their capabilities can lead to increased volunteer participation. The study also revealed concerns about personal safety, particularly regarding the risks associated with volunteering during pandemics. This concern was consistent with previous findings where a significant number of healthcare students expressed a willingness to volunteer, provided they received proper training and adequate personal protective equipment (PPE) (49). Notably, even in situations where the perceived risk of infection was high, a significant number of students expressed readiness to volunteer, indicating that the provision of adequate safety measures and training can mitigate apprehensions and enhance volunteer participation. Addressing these safety concerns in volunteer training programs is essential to alleviate fears and encourage more healthcare students to participate in emergency response efforts.

As in presented study significant majority of nursing students exhibit a strong inclination to volunteer, primarily motivated by altruism and influenced by perceived social standards. Their positive attitudes demonstrate a willingness to help during crises, and addressing risk perception and social expectations can instill confidence in their volunteering capabilities. Beyond academics, volunteering provides valuable opportunities for practical learning and personal growth. It not only enhances students' understanding of real-world issues but also fosters a sense of camaraderie among peers and the broader community (50). It was also found that individuals' perceptions of the risks involved in volunteering positively influenced their willingness to volunteer. Despite concerns about risks and a modest level of self-assurance, a positive correlation exists between perceived capabilities and the willingness to volunteer. The Theory of Planned Behavior (TPB) highlights the significant role of attitudes, subjective norms, and perceived behavioral control in shaping their intentions. While some students feel uncertain about their capabilities and perceive risks associated with volunteering, providing adequate training and safety measures can boost their confidence and enhance their willingness to engage in emergency response efforts.

CONCLUSION

This study underscores the critical role of nursing students as valuable contributors to health emergency management. Their positive attitudes, strong altruistic tendencies, and willingness to volunteer signify a promising capacity to augment healthcare systems during crises. Among the five factors examined—attitude, subjective norms, perceived behavioral control, altruism, and risk perception—all significantly

influenced the intention to volunteer, with altruism emerging as the most substantial predictor. This finding highlights the intrinsic motivation of nursing students to serve their communities, even in challenging and uncertain conditions.

While most participants demonstrated a strong willingness to volunteer, the study also highlighted certain hesitations, particularly concerning perceived risks and confidence in their abilities. To address these concerns and fully harness their potential, it is recommended to integrate structured training programs on disaster preparedness and volunteerism into nursing curricula. Additionally, implementing safety measures and providing clear guidelines can significantly boost their confidence and readiness for emergency response efforts.

This finding underscores a dual reality: while nursing students exhibit a solid foundation of intent and moral drive, their practical readiness for emergency situations may still require further support. Despite these challenges, their responses reveal a deep commitment to public health and a strong eagerness to contribute in both clinical and non-clinical roles, reflecting their adaptability and resilience.

By providing a detailed analysis of these factors, this research contributes to a better understanding of the psychological and social dimensions of volunteerism among nursing students in the Indian context. It emphasizes their potential as a vital resource in addressing immediate healthcare needs during emergencies while fostering long-term resilience in the healthcare system.

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