



## FROM AWARENESS TO ACTION: A HOSPITAL- BASED STUDY ON SKIN DONATION AWARENESS

### Medical Surgical Nursing

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### ABSTRACT

Skin donation and skin banking are essential components of modern healthcare, particularly in the management of burns, chronic wounds and reconstructive procedures. Despite their life-saving potential, awareness and acceptance among the general population remain limited. A descriptive cross-sectional study was conducted to assess the knowledge and attitude of the OPD attendees of quaternary care hospital regarding skin donation and skin banking. Using systematic random sampling, 240 participants attending various outpatient departments were included. Data were collected through a self-structured bilingual (English and Hindi) questionnaire covering awareness, attitudes, willingness to donate, sources of information and perceived barriers. Statistical analysis was performed using descriptive and inferential methods. Results indicated that most participants (57.9%) had average knowledge, with only 2.5% showing good knowledge. However, a large majority (86.7%) demonstrated poor attitude toward skin donation and banking. Poor attitude was observed and the willingness to donate was influenced by lack of awareness, myths, religious concerns and fear of body disfigurement. Education showed a significant association with knowledge ( $\chi^2=16.03$ ,  $p=0.014$ ), while for attitude, both age ( $\chi^2=8.715$ ,  $p=0.003$ ) and education ( $\chi^2=8.017$ ,  $p=0.046$ ) were significant. The study reveals a significant gap between awareness and informed understanding, emphasizing the need for initiatives to improve public knowledge, address misconceptions and promote acceptance of skin donation and skin banking.

### KEYWORDS

Skin donation, Skin banking, knowledge, attitude

### INTRODUCTION

Skin donation and banking are essential in modern medicine, enabling effective management of burns, complex wounds and reconstructive needs. Skin allografts, which do not require matching, provide a readily available life-saving resource, particularly when extensive burns-exceeding 40% body surface-become fatal without intervention. Globally, burns account for nearly 180,000 deaths annually, with higher mortality in low- and middle-income countries. Despite its potential to benefit up to 100 lives, tissue donation remains underrecognized compared to organ donation. A 1985 study in the United States showed that 50% of respondents were willing to donate their kidneys, while only 40% were inclined to donate their skin. Similarly, an Iranian study conducted among high school students revealed that kidney (88%) and heart (84%) were the most commonly donated organs, whereas skin (51%) was least preferred for donation. Strengthening knowledge and attitude is crucial to improving donation rates and optimizing patient outcomes.

### Need of study

Donated skin demand exceeds supply due to low awareness, sociocultural barriers, and limited infrastructure. Addressing these gaps is essential to improve availability of lifesaving skin grafts for burn patients. A study in the United States highlights the effectiveness of awareness initiatives, showing that public education campaigns have helped meet up to 65% of the demand for donated skin in certain states with a stark contrast to countries with low awareness levels.

### Scope of study

This study examines knowledge and attitude of skin donation among public and healthcare groups, identifying barriers and misconceptions to support awareness programs, policy development, and improved skin banking systems.

### Objectives

- To assess the knowledge regarding skin donation and skin banking among OPD attendees of a quaternary care hospital in Delhi.
- To assess the attitude regarding skin donation and skin banking among OPD attendees of a quaternary care hospital in Delhi.
- To determine the association of knowledge and attitude with selected sociodemographic variables.

### MATERIALS AND METHODS

A quantitative, non-experimental descriptive cross-sectional design

assessed knowledge and attitude of skin donation and skin banking among OPD attendees of a quaternary care hospital in Delhi. The sample included 240 participants ( $\geq 20$  years), selected using systematic random sampling ( $K = 3$ ) based on Solvin's formula. Literate individuals in Hindi or English were included; unwilling participants and Cosmetic surgery OPD follow-up cases were excluded.

Ethical approval and informed consent was obtained, ensuring confidentiality. Data was collected using a validated, reliable self-administered semi-structured questionnaire comprising three sections: sociodemographic variables, 15 knowledge questions, and 10 questions on attitude. Knowledge was scored as correct/incorrect, while attitude used a rating scale; higher scores indicated better outcomes.

Standardized administration minimized bias. Data was coded, entered into Microsoft Excel, and analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation, aligned with study objectives.

### RESULTS

#### Level of knowledge regarding skin donation and skin banking among general population

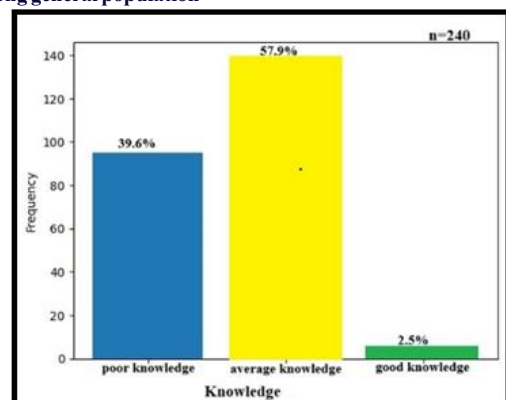
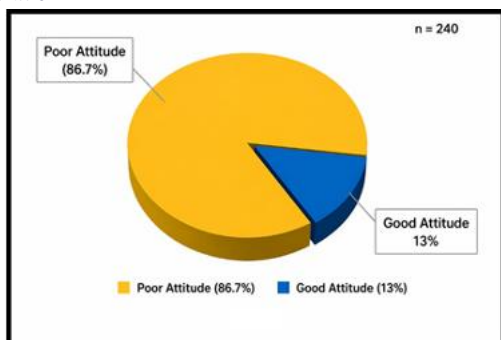


Fig 1: Distribution of level of knowledge regarding skin donation and skin banking among general population

The majority of participants (57.9%) had average knowledge, 39.6% had poor knowledge, and 2.5% had good knowledge. The mean score was  $6.22 \pm 2.22$  ( $n = 240$ ), indicating overall average knowledge.

The majority of participants belonged to the age group of 21–30 years (37.4%), followed by 31–40 years (34.2%), 41–50 years (14.2%), and above 50 years (14.2%). In terms of gender distribution, most participants were male (77.1%), while females constituted 22.9%. Regarding marital status, the majority were married (89.2%), followed by single individuals (10.4%) and a very small proportion who were separated (0.4%). With respect to educational status, more than half were graduates (55.8%), followed by high school educated participants (30%), while 8.4% and 5.8% had completed middle school and secondary education, respectively. In terms of occupation, nearly half were non-serving (48.7%), followed closely by serving personnel (47.5%), and a small proportion were ex-serving (3.8%).

**Attitude regarding skin donation and skin banking among general population**



**Fig 2: Distribution of attitude regarding skin donation and skin banking among general population**

The majority of participants (86.7%) had poor attitude, while 13.3% had good attitude regarding skin donation and skin banking. The mean score was  $27.34 \pm 3.12$  ( $n = 240$ ), indicating overall poor attitude.

**Association between knowledge and attitude regarding skin donation and skin banking among general population with demographic variables.**

**Table 1: Association between knowledge regarding skin donation and skin banking with demographic variables**

Demographic Variables	Knowledge			Chi-square ( $\chi^2$ )	p-value
	Poor	Average	Good		
<b>Education</b>					
a. Middle school	10	10	0	16.03	0.014
b. Secondary school	7	6	1		
c. High school	39	32	1		
d. Graduation	39	91	4		

( $df = 6$ )  
A significant association was observed between education and knowledge of skin donation and skin banking ( $\chi^2 = 16.03$ ,  $p = 0.014$ ) indicating that higher educational levels are linked to better awareness.

**Table 2: Association between attitude regarding skin donation and skin banking with demographic variables**

Demographic Variables	Knowledge		Chi-square ( $\chi^2$ )	p-value
	Poor	Average		
<b>Age in years</b>				
a. 21-30	6	84	8.715	0.003
b. 31-40	12	70		
c. 41-50	5	29		
d. Above 50 years	9	25		
<b>Education</b>			8.017	0.046
a. Middle school	4	16		
b. Secondary school	4	10		
c. High school	13	59		
d. Graduation	11	123		

( $df = 3, 3$ )  
A significant association was observed between age and attitude

towards skin donation and skin banking ( $\chi^2 = 8.715$ ,  $p = 0.003$ ), suggesting that attitudes vary significantly across different age groups. Education also showed a statistically significant association with attitude towards skin banking and skin donation ( $\chi^2 = 8.017$ ,  $p = 0.046$ ), indicating that attitude varies across different educational levels.

**DISCUSSION**

The present study found that 57.9% of participants had average knowledge, 39.6% had poor knowledge, and only 2.5% had good knowledge regarding skin donation and skin banking. A large majority (86.7%) showed a poor attitude, with a mean attitude score of  $27.34 \pm 3.12$ , indicating generally unfavorable attitude. Education was significantly associated with knowledge ( $\chi^2 = 16.03$ ,  $p = 0.014$ ), while age ( $\chi^2 = 8.715$ ,  $p = 0.003$ ) and education ( $\chi^2 = 8.017$ ,  $p = 0.046$ ) were significantly associated with attitude.

These findings are comparable with studies from the United States, where awareness campaigns have been shown to meet up to 65% of skin donation demand in certain regions, reflecting better awareness and system-level support compared to the present study. In contrast, the current study shows only 2.5% good knowledge, highlighting a major awareness gap.

Similarly, a study from Iran reported 51% willingness to donate skin, although actual donation rates were much lower due to fear, myths, and cultural barriers. This aligns with the present findings, where despite moderate knowledge (57.9% average knowledge), 86.7% of participants still demonstrated poor attitude, indicating a strong knowledge–attitude gap.

Similarly, a study among healthcare professionals by Bansal et al. found that 78.3% were aware of skin donation, but only 59.6% knew about skin banking, and only 25.5% were willing to donate skin, showing a clear gap between awareness and actual willingness. In another study from Eastern India, Sarkar et al. reported that 64.6% of healthcare workers had moderately adequate knowledge of skin donation, while attitude scores remained only average (mean attitude scores:  $29.41 \pm 4.45$  for skin donation and  $21.25 \pm 2.82$  for skin banking), indicating moderate acceptance. The consistency of these findings suggests that inadequate knowledge and socio-cultural factors significantly influence attitudes toward skin donation.

Overall, the present study highlights that although a portion of the population has basic awareness, it does not translate into positive attitude or willingness to donate. Strengthening structured educational interventions and public awareness campaigns is essential to bridge this gap and improve skin donation practices.

**Strengths-** Systematic Random Sampling, Use of validated tools

**Limitations-** Single- institution study

**Implications for Practice and Recommendations**

The study highlights the need to improve skin donation practices through enhanced public awareness, educational programs, and targeted campaigns to reduce misconceptions and sociocultural barriers. Strengthening skin bank infrastructure and accessibility, along with supportive policies and community engagement can increase participation. It also recommends outreach activities, media involvement, organ donation drives and experiential learning like skin bank visits. Further research on barriers, motivators and interventions, along with government initiatives, is essential to improve acceptance, availability and burn care outcomes.

**CONCLUSION**

The findings suggest that while the attitude of the population toward skin donation and banking is generally positive; there is a gap in knowledge that needs to be addressed. Education level plays a crucial role in shaping both knowledge and attitude. Hence, targeted awareness programs and educational material such as the proposed information booklet are essential to enhance understanding and promote participation in skin donation. These efforts could contribute significantly in improving public awareness regarding skin donation and skin banking.

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