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Research Article

Evaluation of Knowledge and Practice on Pressure Ulcer Prevention among Immobilized Clients at HSK Hospital

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ABSTRACT

Backgrounds: The skin is an active and largest organ in our body. The skin protects the storage of food, regulates temperature and a sense organ. The epidermis shields underlying tissue against water loss and injury and prevents entry of micro-organisms. The dermis continues with nerve fibres, sebaceous blood vessels, sweat glands, and hair follicle". The data was analyzed by using descriptive study; the sample includes 100 caregivers.

Methods: Simple random technique was used to select the hospitals, and a convenient sampling technique was used to select the samples for the study. Data was collected using a structured knowledge questionnaire and self-constructed practice scale and analyzed using descriptive and inferential statistics.

Results: The mean percentage of knowledge scores of pressure ulcers among caregivers of immobilized clients was 16.91% score and SD (3.59). The mean percentage of practice scores of pressure ulcers among caregivers of immobilized clients was 15.33% score SD (4.98). The 'r'-value is (-0.05); hence it is clear that there is a statistically negative co-relation between knowledge and practice of pressure ulcers among caregivers of immobilized clients.

Conclusion: The study concluded no significant difference was found between the knowledge and practice scores of pressure ulcers among caregivers of immobilized clients. Negative correlation between knowledge and practice of pressure ulcers among caregivers of immobilized clients.

Key-words: Caregivers, Immobilized Clients, Knowledge on pressure ulcers, Practice on pressure ulcers, Sociodemographic variables

INTRODUCTION

Healthy skin indicates the health status of a person. It protects the person from infections and injuries. It maintains the beauty of a person. "Without healthy skin there is no essence" [1]. The skin protects food storage, secretes, excretes, regulates temperature, and is a sense organ. Subcutaneous tissue insulates and cushions the skin^[2].

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Here the signs and symptoms of diseases exhibited through skin are temperature variations i.e. hot & dry skin variations, skin texture, skin turgor and wrinkling, skin rash, scars, ulcers, and dermatitis [3]. Health is a condition where all body and mind functions are normally active. Health is a highly individual perception. It is an ongoing process of life [4]. Pressure Ulcer is a common health problem in hospitals, nursing homes, and home care settings. The incidence of pressure ulcers is estimated at 11% in skilled care and nursing homes, 10% in acute care and 4.4% in home care [5]. Pressure ulcer prevention begins by identifying high-risk individuals, systematically examining the skin, using bed and chair support surfaces, and changing posture, mobility, and nutritional support [6].

people and patients with limited mobility [9].

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A pressure ulcer is called a bed-sore, decubitus ulcer, pressure sore, and sometimes pressure necrosis or ischemic ulcer [7]. He noticed that patients who developed eschar of the buttocks and sacrum died after some time. He named this lesion "decubitus ominous," meaning death was inevitable after developing this lesion [8]. Pressure injury (PI) is a painful, costly, but potentially preventable problem common in older

The reported burden of pressure ulcer in major hospitals, long-term facilities and home care setting was 0.4-38%, 2.2-23.9%, and 0-17%, respectively. Intensive care unit (3-23.9%), Neuro-trauma (3.1-13.3%), and orthopedic (8.4-34.2%) patients are more prone to develop PUs compared to other patients [10]. While existing research provides some insight into current practice, no previous studies have explored the collective knowledge and attitudes across the interprofessional team in a community setting [11].

MATERIALS AND METHODS

Study Design- The research design adopted for this study was a descriptive correlational study design, where the researcher describes the existing fact on the level of knowledge and practice regarding preventing pressure ulcers among caregivers of immobilized clients n=100. This test was conducted among caregivers, who are physically disabled, caregivers who are not willing to participate in the study, caregivers who are not able to cooperate throughout the period, people in old age, comorbidity, alcoholics and mentally challenged and caregivers with age group of above 18 yrs. These caregivers can read and speak Kannada or English, who are willing to participate in the study.

Instruments- This study prepared the self-administered knowledge questionnaire as multiple-choice questions. It consists of 30 items regarding knowledge and information on the prevention of pressure ulcers, and a self-constructed practice scale was prepared in the form of practice scale. It consists of 15 items regarding the practice of pressure ulcer prevention. A seeking system is developed for the item; each correct answer is assigned a score of one, wrong answer score of zero.

Data collection procedures- The main study was conducted from 10-07-2022 to 25-07-2022 at B.V.V.S, HSK Hospital & Research Center Navanagar, Bagalkot.

Variables of the study: Dependent variable: In this study, it refers to the knowledge regarding the prevention of pressure ulcer among caregivers. Independent variable: Practice regarding prevention of pressure ulcer among caregivers.

Statistical Analysis- The data was analyzed by using SPSS 18 statistical package. Statistical analysis in the present study was done with the help of Descriptive statistics such as frequency percentage distribution and mean and standard deviation. Inferential statistics and chi-square tests were used to analyze the association of knowledge and practice with sociodemographic variables.

Ethical clearance- Ethical clearance certificate was obtained from B.V.V.S Sajjalshree Institute of Nursing Sciences, the institutional ethical committee. Written consent was obtained from each participant.

RESULTS

Sociodemographic characteristics- Percentage-wise distribution of subjects according to age groups reveals out of 100 subjects, depicts the majority (51%) were belonging to 25-30 yrs of age, reveals that the majority (51%) of caregivers under this study belong to the age group of 25 yrs to 30 yrs. Percentage-wise distribution of subjects according to gender reveals that out of 100 subjects, most people, 56% were Male, and 44% were females in the study. The percentage-wise distribution of subjects according to religion is that the majority % of people 64% were Hindu, 23% were Muslims, 13% were Christian this study. The percentage-wise distribution of subjects according to their educational status showed that the majority of people 43% were graduates in this study. The percentage-wise distribution of subjects according to their Family members in their health field 21% people were from the health field, and 79% were not from the health field under this study. The percentage-wise distribution of subjects according to their relation to the client was that the majority of people 56% were children, 26% were others, and 18% were spouses under this study.

Assessment of knowledge regarding preventing pressure ulcers among caregivers of immobilized clients. Knowledge reveals that out of 100 caregivers, the majority (68%) of caregivers had average knowledge, (24%) of them had good knowledge and (8%) of them had poor knowledge (Table 1).



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Table 1: Assessment of knowledge regarding preventing pressure ulcers among caregivers of immobilised clients

Level of knowledge	Number (f)	Percentage (%)
Poor	8	8%
Average	68	68%
Good	24	24%
Good	24	24%

Results related to domain-wise mean, SD and mean percentage of caregivers illustrate that total mean scores on general questionnaires of pressure ulcers were 7.76, SD was 1.7 and mean percentage was 7.76%. Knowledge

scores on prevention and management of pressure ulcers among immobilized clients mean was 8.6, SD was 1.7 and the mean percentage was 8.6% (Table 2).

Table 2: Area-wise mean, standard deviation & mean percentage of knowledge scores

		Knowledge scores	
Knowledge area	Max score	Mean± SD	Mean (%)
General Questionnaires on pressure ulcer.	13	7.7±1.7	7.76
Questionnaires on prevention and management of pressure ulcer among immobilized clients.	17	8.6±1.7	8.63
Total	30	16.3±3.4	16.3

Assessment of level practice scores regarding preventing pressure ulcers among caregivers of immobilized clients. Practice reveals that out of 100 caregivers, the highest percentage (63%) of caregivers had average practice,

(24%) of caregivers had good practice, and (16%) of caregivers had poor practice. Hence it reveals that most (63%) caregivers have average practice (Table 3).

Table 3: Assessment of practice regarding preventing pressure ulcers among caregivers of immobilized clients

Level of practice scores	Number (f)	Percentage (%)
Poor	16	16%
Average	63	63%
Good	21	21%

The level of practice scores regarding the prevention of pressure ulcers among caregivers of immobilized client's

data shows that the mean was 15.332, SD was 4.9 and the mean percentage was 15.332% (Table 4).

Table 4: Mean, standard deviation & mean percentage of practice score

Level of Practice	Max. score —	Practice scores	
		Mean± SD	Mean (%)
Practice scores regarding prevention of pressure ulcer among caregivers of immobilized clients.	30	15.332±4.9	15.332%



The findings regarding the association between level of knowledge scores with their selected sociodemographic variables show that there was no significant association found between the level of knowledge scores with their selected sociodemographic variables such as age

 $(\chi^2=0.036)$, Gender $(\chi^2=0.002)$, Religion $(\chi^2=2.543)$, Educational status (χ^2 =0.333), Family members in health field (χ^2 =2.209), relation to the client (χ^2 =2.580), in this calculated chi-square correction value is lesser than the table value for sociodemographic variables (Table 5).

Table 5: Association between level of knowledge scores regarding prevention of pressure ulcers among caregivers of immobilized clients with their selected sociodemographic variables.

Sociodemographic variables	Chi-square	Table value
Age	0.036	3.84
Gender	0.002	3.84
Religion	2.543	3.84
Educational status	0.333	3.84
Family members in health field	2.209	3.84
Relation to the client	2.580	3.84
•	Gender Religion Educational status Family members in health field	Gender 0.002 Religion 2.543 Educational status 0.333 Family members in health field 2.209

DF= 1= Not significant

The findings regarding association between level of practice scores with their selected sociodemographic variables show that there was no significant association found between the level of practice scores with their selected sociodemographic variables such as age

 $(\chi^2=0.426)$, Gender $(\chi^2=0.027)$, Religion $(\chi^2=0.732)$, Educational status (χ^2 =0.542), Family members in health field (χ^2 =0.643), relation to the client (χ^2 =2.503), in calculated Chi-square correction value is lesser than the table value for sociodemographic variables (Table 6).

Table 6: Association between level of practice scores regarding prevention of pressure ulcers among caregivers of immobilized clients with selected sociodemographic variables

sociodemographic variables	Chi-square	Table value
Age	0.426	3.84
Gender	0.027	3.84
Religion	0.732	3.84
Educational status	0.542	3.84
Family members in health field	0.643	3.84
Relation to client	2.503	3.84
	Age Gender Religion Educational status Family members in health field	Age 0.426 Gender 0.027 Religion 0.732 Educational status 0.542 Family members in health field 0.643

DF= 1= Not significant

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DISCUSSION

The present study was conducted to discover caregivers' knowledge and practice of immobilized clients. To achieve the study's objectives, the descriptive study design was adopted. A sample of 100 caregivers was selected.

The present study shows that most caregiver's knowledge reveals that out of 100 subjects, highest percentage (68%) of caregivers had average knowledge, (24%) of caregivers had good knowledge, and (8%) of caregivers had poor knowledge. Hence it reveals that most (68%) caregivers have Average knowledge.

Fahd *et al.* [12] supported to perform the quasi-experimental study on the effect of the designed pressure ulcer prevention program on caregivers knowledge of immobilized patients in King Fahd Hospital; 64 male and female caregivers were selected randomly, structured questionnaire was used to collect data, 96.9% of the sample had poor knowledge with mean score of (7+3.8) regarding pressure sore in the pre-test, but in the post-test, 93.8% of them had good knowledge with mean score of (19.2+3.1), there was a highly statistical difference between the 'p-value 0.001, the study concluded that implementation of the educational programmed for caregivers showed remarkable improvement of the caregiver's knowledge in preventive of pressure sore [12].

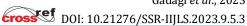
A quantitative cross-sectional study was conducted among caregivers of home-based palliative care patients residing in Olavanna Panchayath, Kozhikode. Caregivers of home-based palliative care patients at risk of developing bedsores. Samples Using the purposive sampling technique, the need assessment was conducted among 20 caregivers of home-based palliative care patients. The obtained data were analyzed using descriptive statistics. The results showed that the Knowledge assessment among care providers reveals that 10% had good knowledge, 40% had average knowledge, 50% had poor knowledge, and none had very good or very poor knowledge. The study concluded that evidence-based clinical practice guidelines structured teaching programs can improve caregivers' knowledge [13].

Assessment of level practice scores regarding preventing pressure ulcers among caregivers of immobilized clients. Practice reveals that out of 100 caregivers, the highest percentage (63%) of caregivers had average practice,

(24%) of caregivers had good practice, and (16%) of caregivers had poor practice. Hence it reveals that most (63%) caregivers have average practice. Nuru *et al.* ^[14] show that nearly half (54.4 %) of the nurses had good knowledge; 48.4 % had good practice on the prevention of pressure ulcer. Educational status [adjusted Odds Ratio (AOR)=2.4,95% CI (1.39-4.15)], work experience [AOR= 4.8,95%CI (1.31-10.62)] and having formal training [AOR=4.1, 95%, staff shortage [AOR=0.07, 95 % CI (0.03-0.13)] and inadequate facilities and equipment [AOR=0.4, 95%CI (0.19-0.83)] were found to be significantly associated with the practice on prevention of pressure ulcer, the study concluded that knowledge and practice of the nurses regarding prevention of pressure ulcer was found to be inadequate.

A quantitative cross-sectional study with a descriptive correlation design implemented a modified semistructured questionnaire using a convenient sampling method. McDonald's standard of learning outcome measurement criteria was used to categorize caregivers' KAP. A Pearson product-moment correlation coefficient (r) was utilized to assess the relationships between caregivers' KAP, with a value of 0.05 or less considered statistically significant. The study findings indicate that caregivers had a moderate level of knowledge (M=73.68%, SD=6.43), a neutral attitude (M=70.32%, SD=6.89), and a moderate level of practice (M=74.77%, SD=9.08). A positive correlation existed between caregivers' knowledge and attitude (r=0.30) and between knowledge and practice (r=0.37). Nevertheless, there was no correlation between attitude and practice (r=0.12). The study concluded that caregivers must develop a positive attitude and expand their knowledge to improve their practice [15].

A study was conducted on a systematic review to assess the effectiveness of static air mattress overlays in preventing pressure ulcers. The study was focused on the incidence of pressure ulcers, costs, and patient comfort. The methodological quality assessment was evaluated using the Critical Appraisal Skills Program Tool. Results were reported in a descriptive way to reflect the exploratory nature of the review. The searches included 13 randomized controlled trials (n=11) and cohort studies (n=2). The mean pressure ulcer incidence figures found in the different settings were, respectively, 7.8% pressure ulcers of categories II to IV in nursing homes, 9.06% pressure ulcers of categories I to IV in intensive





care settings, and 12% pressure ulcers of categories I to IV in orthopedic wards. This study concluded that interpretation of the evidence should be performed cautiously due to the wide variety of methodological and reporting quality levels of the included studies [16].

The systematic literature review assessed the cost of pressure ulcer prevention and treatment in adults to conform to the Cochrane Collaboration guidelines. After assessing eligibility, 17 articles were included. Five articles reported on the cost of prevention and treatment, three reported on cost of prevention, and nine reported on the cost of pressure ulcer treatment. The cost of pressure ulcer prevention per patient per day varied between 2.65 € to 87.57 € across all settings. The cost of pressure ulcer treatment per patient per day ranged from 1.71 € to 470.49 € across different settings. The study concluded that the cost of pressure ulcer prevention and treatment differed considerably between studies. The studies identified the need to use available and study design-specific methodological guidelines to conduct health economic studies and the need for additional pressure ulcer-specific recommendations [17]. A qualitative study design based on Grounded Theory

A qualitative study design based on Grounded Theory was conducted on homecare support workers for people with dependency. The research was conducted on a theoretical sample of 10 people currently suffering from a pressure ulcer or who had experienced one in the past, and 15 caregivers of patients who had suffered from this pathology, all of whom came from the four health districts of Puertollano (Ciudad Real, Spain) with in-depth interviews, the study was concluded that the specific problems surrounding home care for pressure ulcers, including the perceptions of both patients and their caregivers [18].

The study design was descriptive, cross-sectional, and 133 caregivers were interviewed using a semi-structured interview schedule. The study findings revealed that 45.9% of respondents were from adjacent districts of Chitwan, 45.9% were between the age group 16-30 yrs, 56.4% were female, 84.2% were married and 70.7% were literate. The level of knowledge is statistically significant with area of residence (p=0.03), marital status (p=0.02) and educational status (p=0.001) of respondents. The study concluded that caregivers had poor knowledge regarding preventive measures. Awareness programs need to be planned and implemented [19].

A descriptive cross-sectional study was conducted to assess the pressure ulcer knowledge. The majority of the 90 caregivers' participants were female 60 (66.7%), 45(50%) were married, and 75(83.3%) had 1 to 10 yrs' experience in nursing practice; 69(76.7%) had received special training on pressure ulcer prevention. Overall, 58 (64.4%) caregivers had corrected pressure ulcer knowledge and 67 (74.4%) had a positive attitude toward preventing pressure ulcers. Thus, the study concluded that nurses need to be orientated to the fact that pressure ulcer risk screening of all patients with limited mobility is an integral part of their job and that nurses must enlighten patients and their relatives on how to prevent pressure ulcers [20].

CONCLUSIONS

The mean percentage of knowledge scores of pressure ulcers among caregivers of immobilized clients was 16.91% score and SD (3.59). The mean percentage of practice scores of pressure ulcers among caregivers of immobilized clients was 15.33% score SD (4.98). The rvalue is (-0.05); hence it is clear that there is a statistically negative correlation between knowledge and practice of pressure ulcers among caregivers of immobilized clients. A finding reveals no significant association between knowledge scores of the family members of pressure ulcers among caregivers of immobilized client's sociodemographic variables.

A similar study can be undertaken on a large scale to make a more valid generalization, a similar study can be undertaken in other hospitals of Bagalkot, and a similar study can be conducted with other groups to improve knowledge and practice.

CONTRIBUTION OF AUTHORS

Research concept- Siddartha Gadagi, Dr. Shridhar C. Pujari

Research design- Siddartha Gadagi, Dr. Shridhar C. Pujari **Supervision-** Siddartha Gadagi, Dr. Deelip S Nateker

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Final approval- Dr. Shridhar C. Pujari, Dr. Deelip S Nateker

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