

Factors Influencing the Practice of the Use of Natural Honey in Wound Dressing among Nurses: A Facility Based Study in a Nigerian Teaching Hospital

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ABSTRACT

Background: The use of natural honey in wound dressing has gained popularity due to its antimicrobial and moisturizing properties. However, there is a need to understand the factors influencing its practice among nurses.

Objective: This study aimed to investigate the factors influencing the practice of using natural honey in wound dressing among nurses in a Nigerian teaching hospital.

Methodology: A descriptive cross-sectional study was conducted among 146 nurses in Bowen University Teaching Hospital, Ogbomoso, Nigeria. A self-administered questionnaire was used to collect data. Data was analyzed using descriptive and inferential statistics.

Results: The results showed that 63.29% of the nurses agreed that knowledge, training, availability, patient openness, cost-effectiveness, scientific evidence, and workplace support influenced their practice of using natural honey in wound dressing. Common challenges faced by nurses included lack of standardization, patient hesitation, and concerns about allergic reactions.

Conclusion: This study highlights the importance of addressing the factors influencing the practice of using natural honey in wound dressing among nurses. Hospital policies and education programs should be implemented to support the use of natural honey in wound care practices.

Keywords: Factors, Practice, Honey, Wound Dressing, Nigeria

Introduction

Wound care is a fundamental aspect of nursing practice and is critical to patient recovery and well-being. Effective wound management promotes healing, prevents complications, reduces infection risk, and enhances patient outcomes.^[1] In recent years, there has been increasing interest in integrating natural products, such as honey, into wound care protocols due to their promising therapeutic properties. Honey, well-regarded for its antimicrobial, anti-inflammatory, and tissue-regenerating qualities, offers a natural alternative to traditional wound care products.^[2]

The use of honey in wound care is not a contemporary innovation but rather a practice rooted in ancient medical traditions. Across various cultures, honey has long been used for its healing benefits, with modern scientific research increasingly validating its effectiveness in wound healing, bacterial load reduction, and minimizing scarring.^[3] Despite the growing body of evidence supporting its therapeutic potential, the use of honey in clinical wound care remains underutilized, particularly in resource-limited settings like Nigeria.

Nigeria's rich cultural heritage and established tradition of using natural remedies for healthcare present a unique opportunity to explore the potential of honey in wound management. Traditional medicine, including the use of honey, is widely practiced and accepted across Nigeria.^[4] However, integrating these traditional practices into the formal healthcare system presents challenges, such as limited awareness, skepticism regarding efficacy, and concerns about the standardization and quality of honey used in medical settings.^[5] Additionally, nurses, who play a pivotal role in wound care, may face barriers in adopting honey-based therapies, ranging from a lack of knowledge to uncertainties about its safety and effectiveness.

In this context, it is essential to examine the factors that influence the use of honey in wound care, particularly among Nigerian nurses. This study seeks to investigate the factors influencing the practices of nurses in a Nigerian teaching hospital regarding honey-based wound dressing.

Understanding these factors will provide valuable insights into the barriers and facilitators that affect the adoption of honey in wound care, helping to inform educational programs and policy initiatives aimed at improving clinical practice and patient outcomes.

Materials and Methods

Study design

A cross-sectional descriptive study design was used in this study to find out the factors influencing the use of natural honey in wound dressing among nurses in a teaching hospital.

Setting & Population

The study was carried out at Bowen University Teaching Hospital (BUTH), faith-based private tertiary health institution located in Ogbomoso, Oyo State, Southwest, Nigeria. The study population comprises of all nurses working at this health facility.

Sampling

This study employed a total enumeration technique as supported by Louis et al. who submitted that total enumeration technique is a valuable research method, particularly when dealing with small populations, high-stakes decisions, or unique populations like the population under study.

Study Instrument

A pretested self-developed questionnaire following review of literatures was used for data collection in this study. Section A included the socio-demographic characteristics of respondents, section B: factors influencing the practice of the use of natural honey for wound dressing, section C: challenges of using natural honey in wound dressing. The instrument was subjected to expertise review for both face and content validity and then pretested for reliability before administration. Data was collected between November and December, 2024.

Method of Data Analysis

Data obtained from respondents was analysed using descriptive and inferential statistics. The Software Packages for Social Science (SPSS) version 20.0 was used. The data collected was analyzed using a descriptive statistical analysis such as frequency, percentage, mean and standard deviation while Pearson Product Correlational method and ANOVA were methods of inferential statistics used for testing the hypotheses at 5% level of significance.

Ethical considerations

Formal ethical approval was obtained from the Ethical Committee of the institution with approval number: BUTH/REC – 2335 and permission to distribute the questionnaire was obtained from the Chief Nursing Officers of the different units. The purpose of the study was explained to them, and the consent form was given to those who agreed to participate in the study. Subsequently, the questionnaire was collected immediately after it had been filled out.

Results

Table 1 shows that 56.8% of the nurses were between age 21–30 years, 22.6% between ages 31–40 years, 14.4% between age 41–50 years, while 6.2% of the respondents were 51–60 years of age. Additionally, 23.3% were male respondents, while 76.7% were female respondents. Regarding the educational status of the respondents, 45.9% had a diploma, 40.4% a BNSc, 11.6% and MNSc, while 2.1% belonged to other groups. On the years of experience of the respondents, 56.8% had 1–5 years of experience, 24.7% had 6–10 years, 4.8% had 11–15 years, while 13.7% had 16 years and above. On their current area of practice in the hospital, 47.9% were currently working in the surgical ward, 16.4% in the orthopedic ward, 12.3% in the pediatric ward, 8.2% in the gynecology ward, 1.4% in the plastic and burns unit, 12.3% in the wound care unit, while 1.4% were in other areas. Regarding duration in surgical-related areas, 75.3% of the nurses had

worked and practiced in surgical areas for 1–5 years, 13.7% for 6–10 years, 2.7% for 11–15 years, while 8.2% had 16 years and above.

Table 2 shows the nurses' knowledge regarding using natural honey in wound dressing at Bowen University Teaching Hospital Ogbomoso, Oyo State. The nurses displayed a high level of knowledge. Most of them agreed that honey is an effective natural agent for promoting wound healing 118(80.8%), honey has antimicrobial properties that can prevent wound infection 108(74%), the pH level of honey supports tissue regeneration in wounds 108(74%), natural honey is suitable for use on both acute and chronic wounds 106(72.6%), honey creates a moist wound environment that aids in healing 108(74%), application of honey reduces the risk of scarring in wounds 107(73.3%), honey can effectively manage odour and exudate in wound care 103(70.5%), using honey in wound dressing is cost-effective compared to conventional dressings 109(74.6%), I am familiar with the proper techniques for applying honey to wounds 92(63.0%) and feel confident educating patients about the benefits of honey in wound healing 91(62.3%). However, an average of 41(28.09%) did not agree.

Table 3 shows the factors influencing the practice of the use of natural honey in wound dressing. The average mean of means shows the rating scale of approximately 4 points which implies that nurses agreed to the following factors influencing the practice of the use of natural honey in wound dressing. Therefore, 63.29 % of the nurses stated the knowledge about the benefits of natural honey in wound dressing, adequate training on how to use natural honey for wound care, availability of natural honey in the facility, Patients are open to using natural honey as a part of their wound care, natural honey is a cost-effective alternative to other wound care products, rely on scientific evidence to support the use of natural honey in wound dressing and workplace supports the use of natural honey in wound dressing.,13.8% were neutral, 18.78% disagreed while 18.78% strongly disagreed.

Table 4 shows the common practices and challenges associated with the use of natural honey in wound dressing among respondents. The average mean of means shows the rating scale of approximately 4 points which implies that nurses agreed to the following common practices and challenges associated with the use of natural honey in wound. Therefore, 63.04 % of the nurses stated the following common practices and challenges associated with the use of natural honey in wound dressing as adequately trained on the use of natural honey in wound dressing, easy to access high-quality natural honey for wound dressing in my workplace., cost of natural honey for wound dressing is a barrier to its usage., lack of standardization in natural honey products hinders its application in wound care, Patients are usually hesitant about the use of natural honey in wound treatment, Hospital policy sometimes hinders the use of honey in wound dressing, Concerns about potential allergic reactions discourage the use of natural honey in wound dressing and workplace supports and encourages the use of natural honey in wound care practices. 15.67% of the nurses were neutral, 17.12% disagreed while 4.18% strongly disagreed.

From table 5, the correlation coefficient between the two variables is 0.799, with a one-tailed significance of 0.000. Since the P value of 0.000 is less than 0.05, there is a significant relationship between nurses' knowledge of natural honey and factors influencing the use of honey for wound dressing among the nurses in Bowen University Teaching Hospital, Ogbomoso.

Discussion

On the level of nurses' knowledge regarding the use of natural honey in wound dressing, larger percentage (70.95%) of the nurses agreed that honey is an effective natural agent for promoting wound healing, it has antimicrobial properties that can prevent wound infection, the pH level of honey supports tissue regeneration in wounds, natural honey is suitable for use on both acute and chronic wounds, honey creates a moist wound environment that aids in healing, application of honey reduces the risk of scarring in wounds, honey can effectively manage odor and exudate in wound care, using honey in wound dressing is cost-effective compared to conventional dressings.

This is in agreement with the assertion of Jull et al.^[6] and Molan^[7] that honey has been used for centuries to treat wounds, and recent research has shown that it is an effective treatment for a variety of wound types. Honey also has antibacterial properties, which can help to prevent infection. Use of honey obtained a remarkable improvement of recalcitrant wound and has demonstrated even more efficacy than conventional treatment.

The high rating scale of approximately 4 points on the practice of application of natural honey in wound dressing among nurses implies that nurses often practice the application of natural honey in wound dressing, good number of nurses (57.96%) often assess the suitability of honey before applying it to wounds, use honey to dress wounds in cases where conventional methods have not been effective, ensure sterile natural honey is used for wound dressing, document the use of honey in the patient's wound care records, monitor the wound for signs of improvement after applying honey, follow evidence-based guidelines when using honey in wound management, collaborate with other healthcare team members when incorporating honey into wound care, and recommend the use of honey for wound dressing in appropriate clinical situations. This supported the opinion of Kwakman et al.^[8] that nurses consider the type and duration of the wound before applying honey dressings, prepare the wound bed, ensure the wound bed is clean with appropriate cleaning agents such as normal saline and free of debris before applying honey, ensure monitoring and maintaining wound moisture, as honey can dry out the wound if not properly managed.

However, there is a concern that this little above average (57.96%) value in nurses' practice of application of natural honey in wound dressing reflects the need for more robust knowledge and awareness on the use. This agrees with the assertion of Ousey et al.^[9] which stipulated that there is a need for ongoing education and training to sharpen nurse's knowledge of clinical benefits natural honey in wound care. This was equally supported by Kielo et al.^[10], that nurses need training in the hospital setting as in-depth care of wounds connotes that to be effective, there is a

need for specific skills. Ankar & Keberi^[11] equally emphasized that sufficient knowledge will impact the quality of care and patient safety will be guaranteed.

A tangible number of 42.01% was recorded in the result of the analysis as total of those who either sometimes, rarely or never get involved in the practice of application of natural honey in wound dressing. This is in agreement with the assertion of Beyene^[12] on the knowledge and attitudes of the nurses on the application of honey in wound dressing, it was determined that very few of the nurses had knowledge about this and if they do, such knowledge is obtained from the Internet. Choi et al^[2] further affirms that a great majority of the nurses who did not prefer to use honey products did not use these products due to lack of sufficient knowledge. In another study conducted by Choi et al.^[2] in Israel, it was determined that nurses had little knowledge about the use of honey but they were eager to learn. Greco et al.^[13] nailed it that the majority of nurses acquired their knowledge about honey application in wound dressing is through newspapers/magazines and friends. This is a gross indication for more awareness nurses practice of application of natural honey in wound dressing.

The result also show that nurses agreed to the following factors influencing the practice of the use of natural honey in wound dressing which evidenced in 63.29% of the nurses stated the knowledge about the benefits of natural honey in wound dressing, adequate training on how to use natural honey for wound care, availability of natural honey in the facility, Patients are open to using natural honey as a part of their wound care, natural honey is a cost-effective alternative to other wound care products, rely on scientific evidence to support the use of natural honey in wound dressing and workplace supports the use of natural honey in wound dressing. This is in tandem with the assertion of Scepankova et al.^[14] which stipulated that the use of honey obtained a remarkable improvement of recalcitrant wounds, and has demonstrated even more efficacy than conventional treatments using commercial wound dressings or antibiotics. Jull et al.^[6] also

corroborated to Honey being used traditionally in the prevention and treatment of wound infections because of its rapid healing property and its cost effectiveness.

A larger percentage of nurses (63.04%) nurses agreed to the common practices and challenges associated with the use of natural honey in wound dressing. They stated the common practices and challenges associated with the use of natural honey in wound dressing as adequately trained on the use of natural honey in wound dressing, easy to access high-quality natural honey for wound dressing in my workplace, cost of natural honey for wound dressing is a barrier to its usage., lack of standardization in natural honey products hinders its application in wound care, Patients are usually hesitant about the use of natural honey in wound treatment, Hospital policy sometimes hinders the use of honey in wound dressing, Concerns about potential allergic reactions discourage the use of natural honey in wound dressing and workplace supports and encourages the use of natural honey in wound care practices. This is in line with Gray et al. opinion that the consequences of lack of standardization such as delayed healing, wound deterioration, reduced efficacy, adverse reactions, waste and excess, patient non-compliance and healthcare professional confusion are probable challenges associated with the use of natural honey. Limited knowledge and training of nurses according to Aghamohammadi et al.^[15] leads to effective use honey in wound dressing supports this assertion. Kwakman et al. in his own opinion in that the quality of honey can vary significantly, impacting its effectiveness in wound healing, patient discomfort and pain corroborated the result obtained. This implies that challenges associated with the use of natural honey in wound dressing should be dealt with deliberately as earlier mentioned and awareness and training should be provided for and harnessed by nurses for a better and greater performance in the application of natural honey in wound dressing.

Conclusion

Based on the findings of this study, it concludes that majority agreed that honey is an effective natural agent for promoting wound healing. However, there is a need for more robust knowledge

and awareness on the use of natural honey in wound dressing, as reflected in the little above average of the respondents' value in nurses' practice.

The study identified several factors that influence the practice of using natural honey in wound dressing, including knowledge about the benefits of natural honey, adequate training, availability of natural honey, and workplace support.

The findings of this study have implications for nursing practice, education, and research. Nurses should be educated and trained on the benefits and proper use of natural honey in wound dressing. Healthcare organizations should provide a supportive environment for the use of natural honey in wound dressing, including availability of high-quality natural honey and evidence-based guidelines.

Recommendations

It is therefore recommended that regular education and training programs for nurses on the benefits and proper use of natural honey in wound dressing. The need to develop and implement evidence-based guidelines for the use of natural honey in wound dressing. Also, hospital management need to ensure the availability of high-quality natural honey in healthcare facilities.

Declaration

Authors Contribution

A.O. designed the study and wrote the original draft; A.S. supervised the whole study; S.O. did the data curation; D.E. wrote the methodology and analysis while E.O. also did data curation. All authors read the final draft and approval.

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Conflict of Interest

All authors declared no conflict of interest

Table 1: Sociodemographic Data

Parameter	Variable	Frequency	Percentage (%)
Age	21-30 years	83	56.8
	31-40 years	33	22.6
	41-50 years	21	14.4
	51-60years	9	6.2
Gender	Male	34	23.3
	Female	112	76.7
Educational qualification	Diploma	67	45.9
	BNSc	59	40.4
	MSc	17	11.6
	Others	3	2.1
Years of Experience	1-5years	83	56.8
	6-10years	36	24.7
	11-15years	7	4.8
	≥16years	20	13.7
Current area of practice	Surgical ward	70	47.9
	Orthopaedic	24	16.4
	Paed surgical	18	12.3
	Gynae ward	12	8.2
	Plastic and Burns unit	2	1.4
	Wound care unit	18	12.3
	Others	2	1.4
Duration of practice in surgical related unit	1-5years	110	75.3
	6-10years	20	13.7
	11-15years	4	2.7
	≥16years	12	8.2

Table 2: Showing Nurses Knowledge Regarding the Use of Natural Honey in Wound**Dressing**

VARIABLES	YES	NO	TOTAL
Honey is an effective natural agent for promoting wound healing	118 (80.8%)	28 (19.2%)	146 (100%)
Honey has antimicrobial properties that can prevent wound infection	108 (74%)	38 (26%)	146 (100%)
The pH level of honey supports tissue regeneration in wounds	108 (74%)	38 (26%)	146 (100%)
Natural honey is suitable for use on both acute and chronic wounds	106 (72.6%)	40 (27.4%)	146 (100%)
Honey creates a moist wound environment that aids in healing	108 (74%)	38 (26%)	146 (100%)
The application of honey reduces the risk of scarring in wounds	107 (73.3%)	39 (26.7%)	146 (100%)
Honey can effectively manage odour and exudate in wound care	103 (70.5%)	43 (29.5%)	146 (100%)
Using honey in wound dressing is cost-effective compared to conventional dressings	109 (74.6%)	37 (25.4%)	146 (100%)
I am familiar with the proper techniques for applying honey to wounds	92 (63.0%)	54 (37%)	146 (100%)
Feel confident educating patients about the benefits of honey in wound healing	91 (62.3%)	55 (37.7%)	146 (100%)

Table 3: Factors influencing the practice of the use of natural honey in wound dressing

Variables	SA	A	N	D	SD	Mean
I am knowledgeable about the benefits of natural honey in wound dressing.	74 (50.7%)	34 (23.3%)	8 (5.5%)	21 (14.4%)	9 (6.2%)	3.98
I have received adequate training on how to use natural honey for wound care.	54 (37.0%)	32 (21.9%)	19 (13.0%)	31 (21.2%)	10 (6.8%)	3.61
Natural honey is readily available in my healthcare facility for wound dressing.	38 (26.0%)	41 (28.1%)	21 (14.4%)	39 (26.7%)	7 (4.8%)	3.44
Patients are open to using natural honey as a part of their wound care.	50 (34.2%)	49 (33.6%)	23 (15.8%)	22 (15.1%)	2 (1.4%)	3.84
Natural honey is a cost-effective alternative to other wound care products.	48 (32.9%)	50 (34.2%)	19 (13.0%)	25 (17.1%)	4 (2.7%)	3.77
I rely on scientific evidence to support the use of natural honey in wound dressing.	61 (41.8%)	31 (21.2%)	21 (14.4%)	28 (19.2%)	5 (3.4%)	3.79
My workplace supports the use of natural honey in wound dressing.	60 (41.1%)	25 (17.1%)	30 (20.5%)	26 (17.8%)	5 (3.4%)	3.75
Average %	37.67%	25.62%	13.8%	18.78%	4.1%	3.74

*SA: Strongly agreed, A: Agreed, N: Neutral, D: Disagree, SD: Strongly disagreed

Table 4: Common Practices and Challenges associated with the Use of Natural Honey in Wound Dressing

Variables	SA	A	N	D	SD	Mean
I feel adequately trained on the use of natural honey in wound dressing.	58 (39.7%)	30 (20.5%)	11 (7.5%)	36 (24.7%)	11 (7.5%)	3.60
It is easy to access high-quality natural honey for wound dressing in my workplace.	37 (25.3%)	52 (35.6%)	20 (13.7%)	31 (21.2%)	6 (4.1%)	3.57
The cost of natural honey for wound dressing is a barrier to its usage.	32 (21.9%)	65 (44.5%)	20 (13.7%)	26 (17.8%)	3 (2.1%)	3.66
The lack of standardization in natural honey products hinders its application in wound care.	73 (50.0%)	40 (27.4%)	15 (10.3%)	12 (8.2%)	6 (4.1%)	4.11
Patients are usually hesitant about the use of natural honey in wound treatment.	27 (18.5%)	43 (29.5%)	35 (24.0%)	34 (23.3%)	7 (4.8%)	3.34
Hospital policy sometimes hinders the use of honey in wound dressing	27 (18.5%)	58 (39.7%)	34 (23.3%)	23 (15.8%)	4 (2.7%)	3.55
Concerns about potential allergic reactions discourage the use of natural honey in wound dressing.	48 (32.9%)	51 (34.9%)	23 (15.8)	17 (11.6%)	7 (4.8%)	3.79
My workplace supports and encourages the use of natural honey in wound care practices.	55 (37.7%)	40 (27.4%)	25 (17.1%)	21 (14.4%)	5 (3.4%)	3.82
Average %	30.56%	32.48%	15.67%	17.12%	4.18%	

**SA: Strongly agreed, A: Agreed, N: Neutral, D: Disagree, SD: Strongly disagree*

Table 5 Pearson Correlation Nurses' Knowledge and Factors Influencing Use of Honey

		Nurses' level of knowledge	Factors influencing use of honey	df	Mean Square	F	Sig.
Pearson Correlation	Nurses' level of knowledge	1.000	0.799	1	9607.352	253.981	0.000
	Factors influencing use of honey	0.799	1.000	144	37.827		
Sig. (1- tailed)	Nurses' level of knowledge	.	0.000	145			
	Factors influencing use of honey	0.000	.				
N	Nurses' level of knowledge	146	146				
	Factors influencing use of honey	146	146				

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