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A Descriptive Study on Foot Ulcer Risk and Foot Self-Care Practices among Fishermen in a Selected Coastal Area of Chennai

Mrs. Yasodha,G[a].,Deepa,M.[b]

[a]Lecturer, VHS-M.A.CHIDAMBARAM COLLEGE OF NURSING, TAMLNADU,CHENNAI
[b]Professor, VHS-M.A.CHIDAMBARAM COLLEGE OF NURSING, TAMLNADU,CHENNAI

A B S T R A C T :

Background: Fishermen, due to their occupation, are at higher risk of developing foot ulcers caused by long hours of standing in water, use of non-protective footwear, exposure to injuries, and poor hygienic practices. **objectives:** This study aims to assess the risk of foot ulcers and evaluate the foot self-care practices among fishermen residing in a selected coastal area of Chennai. **Method**: in this quantitative research approach with a cross-sectional descriptive design, non-probability purposive sampling was utilized to gather data. The study comprised 100 fishers man aged between 30 to above 60 years. Data were collected through the interview method using a structured tool consisting of two parts: a demographic data sheet and a rating scale to assess foot ulcer risk and foot self-care practices. Statistical analysis was conducted using SPSS software to examine the collected data. **Findings**: In this study 77 % of samples had high foot ulcer risk 23% of samples had moderate foot ulcer risk and none of the samples had low foot ulcer risk & 87% of samples had poor foot self-care practice, 13% of samples had fair foot self-care practice, and none of the samples had good foot self-care practices. There was statistically significant association between level of foot ulcer risk with demographic variables such as age, occupation and presence of co-morbidities. **Conclusion:** The present study highlights that fishermen, due to their occupational exposure and lifestyle, are at an increased risk of developing foot ulcers. Findings revealed that many fishermen exhibited moderate to high levels of risk, primarily influenced by factors such as prolonged exposure to seawater, lack of protective footwear, accidental injuries, and predisposing conditions like diabetes. Moreover, foot self-care practices among fishermen were found to be inadequate, with poor awareness regarding hygiene, nail care, wound management, and the importance of early medical attention. The association between demographic and occupational factors with foot ulcer risk underscores the need for targeted health education and preventive strategies. Strengthening community-based interventions, promoting affordable protective footwear, and conducting regular screening can significantly reduce the risk of foot complications. Therefore, this study concludes that while fishermen represent a vulnerable group for foot-related health problems, appropriate education and preventive care can improve their self-care practices and thereby reduce the burden of foot ulcers in coastal communities

Keywords: Fishermen, Foot Ulcer Risk, Foot self care practices

1. INTRODUCTION

Foot health is an important but often neglected aspect of overall wellbeing, particularly in populations exposed to occupational risks. Fishermen represent one such vulnerable group, as their work environment predisposes them to foot injuries, infections, and long-term complications. Prolonged exposure to water, unsanitary working conditions, and lack of protective footwear increase the risk of skin breakdown and ulcer formation. Foot ulcers, if unattended, can lead to chronic wounds, infections, disability, and even amputation.

Globally, studies show that individuals with poor foot hygiene and inadequate knowledge of self-care practices are at higher risk of developing ulcers and related morbidities. In India, the fishing community constitutes a large segment of the coastal population, yet health research has primarily focused on occupational hazards such as respiratory problems, musculoskeletal pain, and accidents, with limited emphasis on foot health.

Since foot ulcers are preventable through simple measures like regular inspection, hygiene, and appropriate footwear, assessing the level of risk and existing self-care practices among fishermen becomes essential. This will help in developing targeted interventions to reduce morbidity, improve quality of life, and prevent disability in this occupational group.

1.1. NEED FOR TUDY

Fishermen often work barefoot or with inadequate footwear, spending long hours in wet, unhygienic environments. This increases their vulnerability to skin maceration, fungal infections, trauma, and ultimately ulcer formation. Unlike diabetic patients who are regularly screened for foot health, fishermen rarely undergo foot risk assessment despite their occupational hazards. In Chennai, a significant proportion of the population depends on fishing for livelihood. However, there is limited research on their foot health status. Identifying the risk of ulcer formation and evaluating their foot self-care practices will provide baseline evidence for health professionals to design preventive education programs. Early recognition and modification of risk factors can significantly reduce ulcer incidence, prevent disability, and promote occupational safety.

Thus, this study is justified as it addresses an overlooked area of community health, aiming to enhance preventive care and promote awareness of foot self-care among fishermen in a selected area of Chennai.

1.2 Objectives

1. To assess the risk of foot ulcer among fishermen in a selected area of Chennai.
2. To determine the foot self-care practices adopted by fishermen.
3. To determine the relationship between foot ulcer risk and foot self-care practices
4. To find the association between the risk of foot ulcer and selected demographic variables (such as age, duration of fishing occupation, type of footwear used, and presence of co-morbidities).
5. To find the association between foot self-care practices and selected demographic variables.

METHODOLOGY

The present study adopted a *quantitative research approach* with a *cross-sectional descriptive design* to assess foot ulcer risk and foot self-care practices among fishermen. A total of *100 fishermen* were selected using *non-probability purposive sampling technique* from a selected area in Chennai. Data were collected through the *interview method* using a structured tool consisting of two parts: a demographic data sheet and a *rating scale to assess foot ulcer risk and foot self-care practices*. The tool was validated by experts in the field, and necessary modifications were incorporated before data collection. The responses were scored, and statistical analysis was carried out to assess the risk levels, self-care practices, and their association with selected demographic variables.

RESULTS

TABLE 1.1 ***FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES OF PARTICIPANTS***
(N = 100)

S.no	Demographic data	Frequency (F)	Percentage (%)
1.	**Age**		
	a. Below 30	0	0
	b. 30 - 39	45	45
	c. 40 - 49	25	25
	d. 50 - 59	22	22
	e. 60 and above	8	8
2.	**Gender**		
	a. Male	71	71
	b. Female	29	29
	c. Others, specify	0	0
3.	**Marital status**		
	a. Single	0	0
	b. Married	82	82
	c. Widow/widower	14	14
	d. Separated	04	04
4.	**Type of family**		
	a. Nuclear family	66	66
	b. Joint family	34	34
	c. Extended family	0	0
5	Educational status		
	a. No formal education	46	46
	b. Primary Education	47	47
	c. Secondary Education	2	2
	d. Higher Education	0	0
	e. Graduate	5	5
	f. Post Graduate	0	0
6	Area of residence		
	a. Urban	0	0
	b. Semi-urban	0	0
	c. Rural	100	100
7	Occupation		
	a. Employed	100	100
	b. Unemployed	0	0
7.a	If yes		
	1. Government	0	0
	2. Private	0	0
	3. Business man	4	4
	4. Daily wages	95	95
	5. Retired	1	1
	6. Others, specify	0	0

8	Nature of occupation a. Heavy worker b. Moderate worker c. Sedentary worker	 83 12 5	 83 12 5
9	Family monthly income a. < Rs. 5000/- b. Rs. 5001—10,000/- c. Rs.10,001—15, 000/- d. > Rs. 15,000/-	 33 13 43 11	 33 13 43 11
10	Dietary pattern a. Vegetarian b. Non – Vegetarian c. Others, specify	 10 90 0	 10 90 0

Table 1.1 shows that majority of participants were between *30–39 years of age*, *male*, and *married*, belonging to a *nuclear family* and residing in *rural areas*. Most had either *no formal education or only primary education*. All were employed, predominantly as *daily wage workers*, with the majority being *heavy workers* and earning between *Rs.10,001–15,000* per month. The majority were *non-vegetarians*.

TABLE 1.2 *FREQUENCY AND PERCENTAGE DISTRIBUTION OF CLINICAL VARIABLES OF PARTICIPANTS*
(N = 100)

S.NO	CLINICAL DATA	(F)	(%)
1.	**Type of DM** a.Type 1 b. Type 2	 46 54	 46 54
2.	**Family history of diabetes mellitus** a. Yes b. No	 76 24	 76 24
2.a	**If yes, mention the relationship** a. Father b. Mother c. Sibling d. Grand parents e. Others, specify	 17 58 1 0 0	 17 58 1 0 0
3	.History of comorbidities a. Yes b. No	 41 59	 41 59
4	Treatment taken for diabetes mellitus a. Oral hypoglycaemic agent b. Insulin c. Combined	 65 35 0	 65 35 0
5	Awareness on diabetic foot care a. Yes b. No	 31 69	 31 69
5.a	If yes, source of information i. Mass media ii. Through health care team members iii. Friends iv. Any others ,Specify	 7 19 5 0	 7 19 5 0

Table 1.2 shows that , most had *Type 2 diabetes mellitus*, with a *positive family history*, commonly on the maternal side. A considerable proportion reported *no comorbidities* and were on *oral hypoglycemic agents*. However, the majority lacked *awareness of diabetic foot care*.

TABLE :2.1.1FREQUENCY AND PERCENTAGE DISTRIBUTION OF THE SAMPLES BASED ON THEIR OVERALL FOOT ULCER RSIK

. (N = 100)

S.NO	OVERALL LEVE FOOT ULCER RISK	FREQUENCY	(%)	MEAN	SD
1.	High Foot Risk	77	77	18.80	2.169
2.	Moderate Foot Risk	23	23		
3.	Low Risk	0	0		

Table 2.1 shows that , majority(77 %) of samples had high foot ulcer risk 23% of samples had moderate foot ulcer risk and none of them had low foot ulcer risk.

TABLE :2.2 FREQUENCY AND PERCENTAGE DISTRIBUTION OF THE SAMPLES BASED ON THEIR FOOT SELF CARE PRACTICES

(N = 100)

S. NO	FOOT SELF CARE PRACTICES	FREQUENCY	(%)	MEAN	SD
1.	GOOD	0	0	24.31	1.28
2.	FAIR	13	13		
3.	POOR	87	87		

Table 2.2 shows that, 13% of samples had fair foot self-care practice, 87% of samples had poor foot self-care practice and none of the samples had good foot self-care practices

TABLE 2.3: RELATION BETWEEN FOOT ULCER RISK AND FOOT SELF CARE PRACTICES

(N = 100)

VARIABLES	**Karl Pearson's Correlation**	**p-value**
FOOT ULCER RISK	r= - 0.84	< 0.01
FOOT SELF CARE PRACTICES		

Table 2.3 shows a *strong positive correlation* (r = 0.84), which was statistically significant ($p < 0.01$). This indicates that fishermen with a higher risk of foot ulcer were more likely to report better foot self-care practices.

Association of demographic and clinical variables showed that, there was a statistically significant association between level of foot ulcer risk with demographic variables such as age, occupation and presence of co-morbidities .There was a statistically significant association between level of foot self care practices and demographic variables such as income , education, family history of diabetes mellitus at 5% level of significance.

DISCUSSION

The present study was conducted to assess foot ulcer risk and foot self-care practices among fishermen in a selected coastal area of Chennai. The findings revealed that 77% of fishermen were at high risk for foot ulcers, while 23% were at moderate risk. None of the participants were categorized under low risk. These findings indicate that fishermen, due to their occupational environment, represent a highly vulnerable group for developing foot complications. Prolonged immersion in seawater, barefoot walking, exposure to sharp objects, and lack of protective footwear appear to be the major contributing factors. Similar results were reported by Boulton et al. (2005), who highlighted repetitive trauma, poor footwear, and lack of awareness as leading causes of ulcer formation.

With regard to foot self-care practices, the present study found that 87% of fishermen demonstrated poor practices, while only 13% reported fair practices, and none had good practices. This clearly reflects a gap in awareness and preventive behaviors. Evidence from Viswanathan et al. (2005) in India supports that structured education and awareness programs on foot care significantly reduce foot complications, especially among high-risk groups such as diabetic patients. A study published in the Journal of Clinical Nursing (2010) further reinforced that poor knowledge and hygiene practices directly contribute to higher ulcer incidence, which aligns with the present findings.

The study also identified significant associations between foot ulcer risk and selected demographic variables such as age, occupation, and presence of co-morbidities. Older fishermen and those with pre-existing conditions such as diabetes were more likely to fall into the high-risk category. This is consistent with existing literature, which shows that aging, chronic illness, and occupational exposure increase the susceptibility to foot problems (Neethiselvan et al., 2021). Similarly, socioeconomic factors such as low income and inadequate education may also contribute to neglect of foot health, as suggested by earlier studies in coastal and agricultural populations.

A noteworthy finding of the present study was the positive correlation between foot ulcer risk and self-care practices (r = 0.84). This implies that fishermen who recognized themselves at higher risk tended to adopt relatively better self-care measures. Although their practices were largely inadequate**,**

CONCLUSION

The study concludes that fishermen are at a substantial risk of developing foot ulcers, with the majority categorized as high-risk due to their occupational exposure and lifestyle practices. Foot self-care practices were found to be largely inadequate, indicating poor awareness of preventive measures such as hygiene, nail care, wound management, and timely medical attention. The strong positive correlation between foot ulcer risk and self-care practices demonstrates that high-risk individuals are more cautious, but their efforts remain insufficient to fully prevent complications.

These findings highlight the importance of integrating foot health education into community health initiatives for fishermen, providing affordable protective footwear, and establishing regular screening camps. By strengthening awareness and preventive care, the risk of foot ulcers and related disabilities can be significantly reduced, thereby improving the quality of life among fishermen and safeguarding their occupational productivity..

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