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Determinants of Skin Diseases Among Women in Rural Mining Communities: A Case Study of Mpohor District

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ABSTRACT

Background: Women in rural mining communities in Ghana are at higher threat of skin diseases due to the lax mining regulations in the country and the potential for increased exposure to environmental and occupational risk factors. Hence, investigating the prevalence and determining factors of skin diseases among women in resource-poor settings in Ghana is essential.

Main objective: This research intended to ascertain the prevalence of skin diseases among women in rural mining communities in the Mpohor District, Ghana, and identify the determinants of skin diseases among the women.

Methods: The project adopted a cross-sectional design in which structured questionnaires were administered. The quantitative approach was used in data collection and analysis. This study used a structured questionnaire with close-ended items for data collection. Data collected were initially retrieved into a Microsoft Excel spreadsheet and cleaned. They were then exported into IBM SPSS (IBM Corp., 2017) for further analysis.

Results: Overall, this research found a prevalence of skin diseases of 24.4% among women in rural communities of Mpohor district. Moreover, a good or adequate level of knowledge of 74.3% was found among the respondents on skin diseases. In addition, the study revealed good attitude of 76.6% towards the control and prevention of skin diseases. Factors such as marital status and the involvement of a relative in mining activity were found to be significantly associated with skin diseases.

Conclusion: More education is required to educate women on the control and prevention of skin diseases. Moreover, interventions should be targeted towards the divorced, in order to empower them to take charge of their own health.

Keywords: Determinants, Communities, Environmental, Prevalence, Diseases

INTRODUCTION

The skin which is a principal organ of the human body and has several functions ranging from; protection against trauma, toxic substances, and radiation; excretion of waste substances, temperature regulation, and the production of vitamin D (Kolarsick, 2011; Lawton, 2019). The skin is susceptible to several infectious and non-infectious conditions which prevent it from performing the above functions as well as contributing to the disease burden globally.

According to recent studies on diseases, skin conditions are the world's 18th largest contributor to the burden of disease and the fourth largest cause of nonfatal conditions (Global Burden of Disease., 2017). Sub-Saharan Africa, Southeast Asia, the tropical Americas, and Oceania are the regions with the greatest rates of skin disease prevalence (Seth et al., 2017; Steer et al., 2009). Several features account for the high prevalence of skin diseases globally. Firstly, environmental and occupational exposures are major causes of skin diseases (Jain et al., 2016). Exposure to extreme weather conditions such as high temperatures is a known risk factor for the onset of skin diseases (Kawshar & Rajesh, 2013).

Also, dermal contact with wastewater or toxic chemicals is associated with the prevalence of skin diseases (Kumar et al., 2019; Park et al., 2020). Additionally, people who work in wet environments and agriculture are more prone to developing skin diseases (Campion, 2015; Park et al., 2020). This is because skin exposure to liquids, particularly unclean liquids, is linked with the occurrence of skin disease (Campion, 2015).

Secondly, socioeconomic factors are a major point of concern when it comes to the pattern of skin diseases. People living in underprivileged sceneries are faced with several systemic and structural challenges that predispose them to skin diseases. For instance, people living in highly populated households, the homeless, and prisoners are more prone to skin diseases (Lakuta et al., 2018; Worth et al., 2012). Due to the limited access to and the suboptimal utilization of healthcare services, it is not surprising to say that the impact of skin diseases will even be more devastating in resource-poor settings (Wootton et al., 2018).

Finally, some individual factors (personal habits and biological features) are linked with the occurrence of skin diseases. Age, gender, and individual knowledge, attitudes, and perceptions are all associated with skin diseases (Alajeel, 2020; Faridi et al., 2021; Kumar et al., 2019; Mir & Mir, 2018). Particularly on gender, the consensus in the literature is that women are more susceptible to skin diseases (Alajeel, 2020; Gupta, 2015; Svensson et al., 2018). This is more worrying given that females are more concerned about their appearance due to deep-rooted social values and perceptions about how women should appear physically (Bidaki et al., 2018; Zhang et al., 2019).

In Ghana and most low and middle-income countries, rural mining societies are faced by extreme levels of poverty, suboptimal access and utilization of healthcare, lack of dermatological facilities or services, poor social support systems, and male-dominated cultural practices and beliefs (ILO, 2017; Nuamah et al., 2019; Sulemana & Dinye, 2014) which make skin diseases among women in rural mining communities all the more a public health concern.

Women in rural mining communities in Ghana are at even higher danger of skin conditions due to lax mining regulations in the country (Amponsah-Tawiah, 2011; Chuhan-Pole et al., 2015;

Hadzi et al., 2018), and the potential for increased exposure to environmental and occupational risk factors (Jain et al., 2016). Therefore, investigating the occurrence and determinants of skin conditions

among women in resource-poor settings in Ghana is essential for the development of a concerted national and global response toward limiting the burden of skin diseases (Freeman, 2014).

Problem Statement

Research in the recent decade has shown that the epidemiological and socioeconomic burden of skin diseases is having a huge tow on several countries, particularly deprived nations (Bridgman et al., 2020; Karimkhani et al., 2017; Seth et al., 2017). There are wide geographic and age-linked variations in the global burden of skin conditions (Karimkhani et al., 2017). While the problem of melanoma is greatest in resource-rich countries, dermatitis is more prevalent in resource-poor settings (Boyers et l., 2014). Also, the GBD shows that infectious skin conditions such as scabies, viral warts, and cellulitis are more prevalent among children while non-infectious skin conditions such as alopecia areata, urticaria, and decubitus ulcers have the greatest burden among adults. These variations in the burden of skin diseases call for more population specific-research to be done in various parts of the world.

One such population that needs urgent attention is women living in deprived rural communities with reduced access to health services. Women bear the greatest burden of skin conditions given the high incidence among women and the psychosocial impacts of skin diseases among women (Lakuta et al., 2018; Nicholas & Gooderham, 2017; Svensson et al., 2018; Zhang et al., 2019).

Even more devastating is the fact that environmental and occupational exposures to risk factors of skin diseases are higher in rural communities where loosely regulated mining takes place (Kumar et al., 2019). Also, women in rural Ghana are likely to be involved in agricultural activities which have been found in the literature to be associated with skin diseases (Campion, 2015; Park et al., 2020).

Despite the above concerns in the literature, dermatological challenges among rural women in Ghana are to a large extent unknown. Also, the knowledge of women in rural mining communities who are more susceptible to skin diseases has not been examined. Research is therefore needed in this area to fill this gap deficit and to provide a basis for the promotion of proper skin care among women in rural communities in Ghana.

METHODS

This section covers the approaches used in collecting and summarizing data. It specifies the design, the population under study, the sample size and procedures involved in selecting the sample. Also, the data collection instruments are clearly described as well as the procedures employed in collecting data from the sample. The chapter ends with the description of the procedures used for analysis and the ethical considerations that were made in this study.

Study Design and Approach

The survey adopted a cross-sectional design in which structured questionnaires were administered. The study adopted the quantitative approach to data collection and analysis. The researchers wanted to gather data from a wide range of residents in remote mining settlements in the study area, hence a cross-sectional survey design was suited for this project. Also, the quantitative approach allowed for the precise and an objective estimation of the prevalence of skin diseases and an examination of the factors linked to the prevalence of skin diseases.

Study Area

The Mpohor District in Ghana's Western Region served as the site of the study. The district, which was formerly known as Mpohor Wassa East District, was established in 2012, making it a relatively new district (Mpohor District Assembly, 2020). The district shares borders with Tarkwa- Nsuaem Municipal

Assembly to the north, Wassa East District to the north east, Ahanta West District to the south-west, Sekondi- Takoradi Metropolitan Assembly to the south, and Shama District Assembly to the south-east.
The district is located in the southern part of the Western Region and has a total land mass of 524.534 square kilometers (Mpohor District Assembly, 2020). Mpohor, which is located along the Takoradi Agona Nkwanta road, is the district's capital.
The population of the district is reported to be 52,473 (Male: 26,979 and Female: 25,494) with majority of the population in urban areas (27,016) compared to rural areas (25,457) (GSS, 2021). Out of the population in rural areas, 13,409 (52.7%) were males and 12,048 (47.3%) were females (GSS, 2021). Majority of the people inhabiting the district are into agriculture with cocoa and oil palm fruit as the most predominant cash crops (Mpohor District Assembly, 2020).
According to the Mpohor District Assembly (2021), the district has only three public clinics, one health centre and eight CHPS compounds and none of these facilities has a medical doctor. Also, the assembly reports that over 65.1% of households rely on ground water sources (26 boreholes and 33 hand-dug wells) and Small-Town Water Supply Systems (4). Alarmingly, an estimated 15.9% of the population engage in open defecation due to the lack of sanitary facilities (Mpohor District Assembly, 2020).

Study Population

Given the increased vulnerability of women (particularly in rural mining communities) to skin diseases (Kumar et al., 2019; Mir & Mir, 2018) and the devastating psychosocial effects of skin diseases among women (Zhang et al., 2019), the target population of this study was women in rural communities in the district. All women aged 18 years and more were targeted in this survey since the legal age of providing consent in Ghana is 18 years and the researcher had limited time and financial resources to recruit females below the age of 18.
This will have required the acquisition of consent from their parents or caretakers with the implication of lengthening the data collection period and introducing additional financial strain on an already limited budget. The indicative population for purposes of estimating the sample size of this study in the sections that follow was all the 12,048 females in rural Mpohor since the number of women in rural communities in the district who were above the age of 18 could not be found in any currently existing database or report.

Sample Size Determination and Sampling Techniques

The minimum sample size for this survey was calculated using the Taro Yamane method (Yamane, 1967) as follows:

$$n = \frac{N}{1 + N\,(e_2)}$$

Where; ***n*** is the sample size, ***N*** is the population size (12,048), and ***e*** is the margin of error (5%).

$$n = \frac{12{,}048}{1 + 12{,}048(0.05^2)} = \frac{12{,}048}{31.12} = 387.15$$

Hence, the sample size for the survey was 387 women in rural communities in the Mpohor district who are above the age of 18 years at the time of data collection. The researchers did not adjust for nonresponse in the sample size estimation since the population used does not represent only women aged 18 and above but also those below. This implies that the estimated sample size may be an over

estimation of what is actually needed to have a representative sample, therefore automatically making up for nonresponse.

This study made use of a multi-stage sampling approach to recruit participants. Firstly, all the 18 rural communities in the district (Mpohor District Assembly, 2020) were purposively selected to form the enumeration areas for the study. Secondly, in each community, systematic random sampling where researchers beginning from the community center selected households at an interval of five to all directions for inclusion in the study. In each selected household, all females aged 18 years and more were considered for inclusion in the study after they gave consent for inclusion.

Data Collection Instrument

This study used a structured questionnaire with close-ended items for data collection. The structured questionnaire was deemed an appropriate tool for collecting data in this survey since it allowed for the gathering of data from a large sample with objective and precise measures (Creswell, 2018).

The questionnaire used in this study were authors constructed and the items were all sampled from the literature. In all, there were 40 items on the questionnaire; 14 on the individual sociodemographic characteristics of respondents, seven (7) on the incidence of skin conditions, 14 on the knowledge of skin conditions, and five (5) on the attitudes towards the prevention and control of skin diseases. Full details of the questionnaire can be found in the Appendix.

Data Collection Procedures

The survey was conducted between March 2022 and April 2022. Data collection was done following approval from the Ghana Institute of Management and Public Administration. Five trained field enumerators, under the supervision of the principal researcher, administered the questionnaires to the sampled participants. The questionnaires were put on an online survey platform (Google forms) and access for use was granted to all five field enumerators who administered them to the respondents. The link to the online survey can be found in the Appendix. At the end of the survey, a total of 381 participants gave consent to be included in the study representing a response rate of 98%.

Data Analysis Plan

Data collected were initially retrieved into a Microsoft Excel spreadsheet and cleaned. They were then exported into IBM SPSS (IBM Corp., 2017) for further analysis. Frequencies and percentages were used to summarize the data on sociodemographic characteristics, prevalence of skin diseases, and the knowledge of respondents on skin diseases. Means and standard deviations were used to summarize the data on the attitude of respondents towards the prevention and control of skin diseases. Chi-square test of independence and odds ratios were then used to explore the factors linked to the incidence of skin conditions among the women. The 95% confidence intervals were used to determine the statistical significance of the relationships.

Study Limitations

This study did not involve an in-depth interview which will better explore the believes of people on the control and prevention of skin diseases. Hence, this limited the ability of the researchers to offer a thorough explanation on attitude of people towards the prevention of skin diseases or the use of health services which will protect against skin diseases.

RESULTS

This section highlights all findings made from this research. Results were presented in tables and graphs. Also, this section highlights discussion of major findings based on the study objectives.

Sociodemographic features

In total, 393 women aged 18 years and above were recruited into the survey. The mean age of the respondents was 37.3. Out of the 393 respondents, only 87 (22.1%) of them were aged below 25 years of age while 116 (29.5%) of them had ages ranging from 45 years and above. In addition, the greater part (49.6%) of the study participants had basic education level as their highest level of education.

Also pertaining to household size, 253/393 (64.4%) of the respondents had a household size of less than six members. The major occupation as found among the respondents was trading. About 51.1% (201/393) of them were traders. With regards to history of involvement in mining, about 29.5% (119/393) of the respondents confirmed that they have been involved in a mining activity over the past 12 months. However, about 49.9% of them confirmed that they have a relative who is involved in a mining activity. Further, a greater part of the study participants (68.5%) lacked private toilet facilities in their homes, and only 49.1% of them thought they were in good health. (Table 1.0).

Table 1.0 Sociodemographic features of respondents

Variables	Frequency [N=393]	Percent [%]
Mean (SD) Age	37.3 (14.52)	
Age		
< 25 25-34 35-44 45+	87 106 84 116	22.1 27.0 21.4 29.5
Marital Status		
Single	121	30.8
Married	196	49.9
Divorced	37	9.4
Widow	39	9.9
Education		
Basic (Primary to JHS) level	195	49.6
No formal education	112	28.5
Secondary level	72	18.3
Tertiary level	14	3.6
Size of household		
<6	253	64.4
6-10	121	30.8
11+	19	4.8
Occupation		
Unemployed	43	10.9
Student	22	5.6
Farming	60	15.3
Artisan	67	17.1
Trader	201	51.1

How long from now have you been doing this job		
<10	281	71.5
10-27	86	21.9
30+	26	6.6
Average household income		
<500	328	83.5
500-800	27	6.9
1000+	38	9.6
Have you ever been involved in any mining activity in the past 12 months		
No	277	70.5
Yes	116	29.5
Has any of your close relations (child or husband or someone you stay together with) been involved in any mining activity		
No	197	50.1
Yes	196	49.9
What is your primary source of water?		
Ground water (well, borehole)	214	54.5
Pipe borne water	165	42.0
Surface water (river, stream etc.)	14	3.5
Private toilet		
No	269	68.5
Yes	124	31.5
Chronic ailment		
I prefer not to say	18	4.6
No	311	79.1
Yes	64	16.3
Overall health		
Good	193	49.1
Normal	104	26.5
Poor	96	24.4
Education about skin disease		

No	301	76.6
Yes	92	23.4

4.1.2 Prevalence of skin diseases

This study assessed the overall prevalence of skin diseases among women in Mpohor district. Out of the 393 respondents, about 20.6% (81/393) of them confirmed that they experienced skin disease over the last 12 months. Also, about 39.5% of the respondents had a skin disease in the past 3 months. With regards to the seasonality of skin diseases, about 49.4% of the women interviewed revealed that they usually develop skin diseases during the dry seasons (Table 2.0).

Table 2.0 Prevalence of skin diseases among respondents

Variables	Frequency [N=393]	Percent [%]
Over the last 12 months, did you experience any skin disease/problem (not physical injuries) on any part of your body		
No	312	79.4
Yes	81	20.6
How often have you had a skin disease on any part of your body over the last 12 months		
Once	44	54.3
Twice	18	22.2
3 to 5 times	6	7.4
More than 5 times	13	16.1
When did you last have a skin disease on any part of your body		
Between 3 to 6 months	3	3.7
I still have it	25	30.9
More than 6 months ago	21	25.9
Within the past 3 months	32	39.5
During which season do you have most problems with your skin		
Dry season	40	49.4
I can't tell	32	39.5
Wet season	9	11.1

4.1.3 Graphical presentation on prevalence of skin diseases among women of Mpohor district. From the graph, the prevalence of skin diseases was high among 24.4% of the respondents while it was noted to be low among the remaining 75.6%.

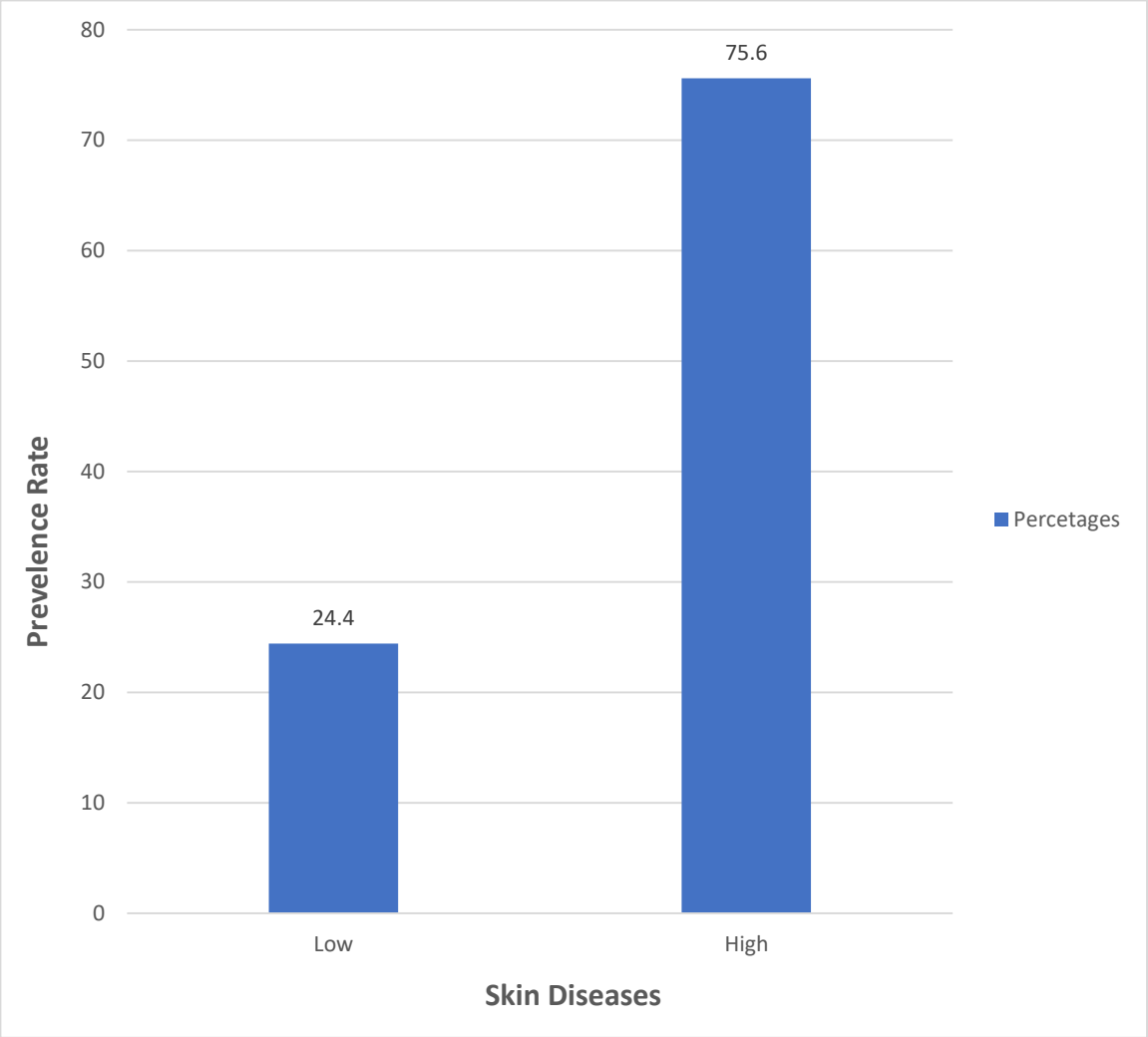


Figure 1. Prevalence of skin diseases

Knowledge regarding skin diseases

To assess the level of knowledge on skin diseases, respondents were asked questions regarding skin disease. About 27.8% (109/393) of the respondents believed that frequent washing of the face could result in skin diseases. Also, about 81.4% of the respondents think skin diseases could be inherited from one's parents. Regarding the development of skin diseases, 290/393 (73.8%) of the women interviewed were of the view that excessive sweating could lead to the emergence of skin diseases. Majority (92.1%) of the study participants believed that insanitary conditions at home or work place could be a precipitating factor for skin diseases (Table 3.0).

Table 3.0 Knowledge on skin diseases

Variable	Frequency [N=393]	Percent [%]
Skin diseases/problems can be caused by both internal and external influences		
False	30	7.6
I don't know	29	7.4
True	334	85.0
Frequent washing of the skin can cause skin diseases		
False	232	59.0
I don't know	52	13.2
True	109	27.8
Prolonged contact with moisture can cause swells on the skin		
False	80	20.4
I don't know	68	17.3
True	245	62.3
Minor Injuries to the skin do not pose a risk for skin disease because no substances penetrate the skin		
False	128	32.6
I don't know	42	10.7
True	223	56.7
Regular skin contacts with working materials (e.g. hair dyes, glues) should be avoided. These substances can cause skin allergies.		
False	66	16.8
I don't know	71	18.1
True	256	65.1
You can inherit skin problems from your parents.		
False	49	12.5
I don't know	24	6.1
True	320	81.4
Excessive sweating promotes the emergence a skin disease		
False	53	13.5
I don't know	50	12.7
True	290	73.8
Water itself is not a particular problem for the skin		
False	105	26.7
I don't know	45	11.5
True	243	61.8

Poor personal hygiene can cause skin diseases.		
False	22	5.6
I don't know	7	1.8
True	364	92.6
Insanitary conditions at home or at the workplace can cause skin diseases.		
False	24	6.1
I don't know	7	1.8
True	362	92.1
Symptoms such as cracking, burning skin, blisters or itching need urgent medical treatment		
False	27	6.9
I don't know	13	3.3
True	353	89.8
Severe skin diseases are usually having spiritual causes		
False	76	19.3
I don't know	48	12.2
True	269	68.5
Exchange of personal belongings increases the risk of skin diseases		
False	27	6.9
I don't know	5	1.3
True	361	91.9
A chronic disease in another part of the body may affect the skin		
False	55	14.0
I don’t know	84	21.4
True	254	64.6

Level of knowledge on skin diseases

Overall, the level of knowledge on skin diseases among the women of Mpohor was found to be good (74.3%) of the participants while 25.7% of them exhibited poor knowledge level.

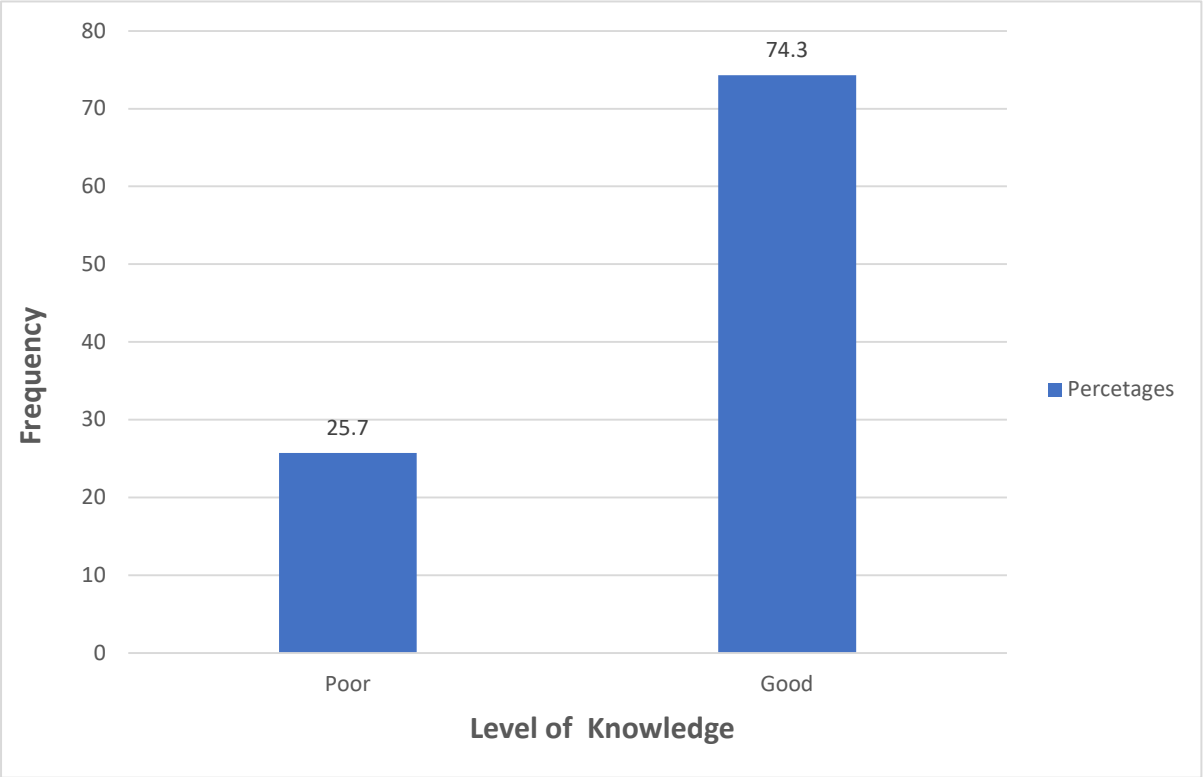


Figure 2. Level of knowledge on skin diseases

Attitude towards prevention and control of skin diseases

Regarding the attitude of respondents towards prevention of skin diseases, 92.6% of study participants agreed to the fact that protecting their skin against infectious diseases was essential to them. Also, majority (56%) of the respondents believed that, access to training on the prevention and control of skin diseases will change their current way of protecting skin. Greater part (76.3%) of the respondents believed that their current way of handling their skin was enough to ensure that they maintained a healthy skin (Table 4.0).

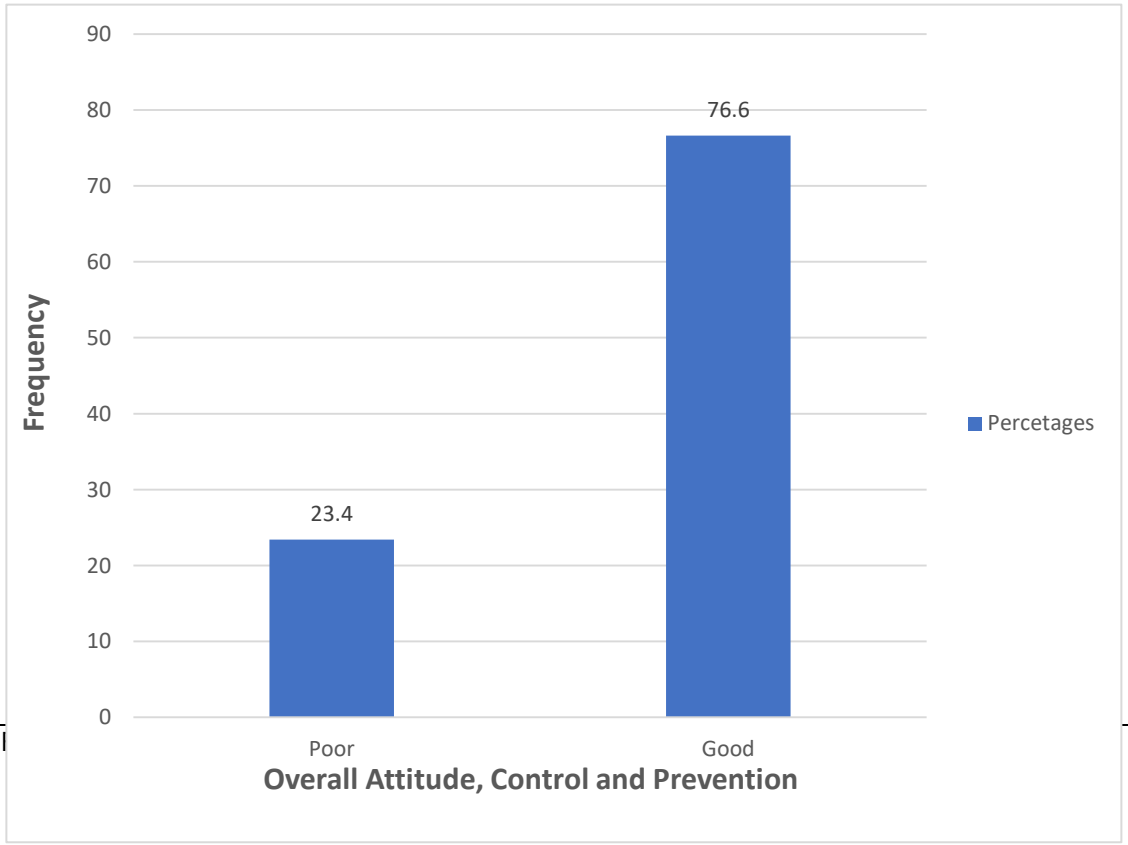
Table 4.0 Attitude of participants towards prevention of skin diseases

Variables	Frequency [N=393]	Percent [%]
Protecting my skin against infections and skin problems are an important part of my responsibilities		
Disagree	25	6.4
Undecided	4	1.0

Agree	364	92.6
Learning more about skin diseases; their causes and how to prevent them is important to me		
Disagree	29	7.4
Undecided	5	1.3
Agree	359	91.3
I do not think providing training/education on prevention and control of skin diseases will change anything about how I treat my skin		
Disagree	220	56.0
Undecided	25	6.4
Agree	148	37.7
The way I handle my is enough to ensure it is always healthy		
Disagree	87	22.2
Undecided	6	1.5
Agree	300	76.3
In private activities (e.g. household chores) skin protection is not so important, since the working materials are usually not so skindamaging like at work		
Disagree	223	56.7
Undecided	36	9.2
Agree	134	34.1

Overall attitude towards control and prevention of skin diseases

The figure below is a graphical representation of how Mpohor women generally felt about preventing



and controlling skin conditions. In general, 76.6% of respondents had a positive attitude toward controlling and preventing skin illnesses, compared to 23.4% who had a negative view.

Figure 3. Overall attitude towards control and prevention of skin diseases

Factors associated with the development of skin diseases

This survey also assessed factors which may be influencing the development of skin diseases in women of Mpohor district. Out of all the sociodemographic characteristics assessed, being divorced, and relative being involved in mining were statistically significant with the development of skin diseases among study participants. (Table 5.0).

Table 5.0 Association between Socio-demographics and the odds of high prevalence

Variables	Prevalence		(Chi-square) p-value	COR (95% CI) p-value	AOR (95% CI) p-value
	Low	**High**			
Age					
<25	68 (22.9)	19 (19.8)			
25-34	85 (28.6)	21 (21.9)			
35-44	54 (18.2)	30 (31.3)			
45+	90 (30.3)	26 (27.1)	(7.59) 0.055		
Marital Status					
Single	100 (33.7)	21 (21.9)		Ref	Ref
Married	147 (49.5)	49 (51.0)		0.46 (0.90 – 2.81) 0.113	1.46 (0.80 – 2.69) 0.222
Divorced	18 (6.1)	19 (19.8)		**2.05 (2.26 – 11.17) 0.000**	**4.94 (1.96 – 12.44)**
					0.001
Widow	32 (10.8)	7 (7.3)	**(18.73) <0.001**	0.50 (0.41 – 2.68) 0.932	0.67 (0.24 – 1.86) 0.445
Education					
Basic (Primary to JHS) level	147 (49.5)	48 (50.0)		Ref	Ref
No formal education	75 (25.3)	37 (38.5)		1.51 (0.91 – 2.52) 0.114	1.29 (0.72 – 2.31) 0.388

Secondary level	63 (21.2)	9 (9.4)		**0.44 (0.20 – 0.95) 0.036**	0.46 (0.20 – 1.02) 0.056
Tertiary level	12 (4.0)	2 (2.1)	**(10.83) 0.013**	0.51 (0.11 – 2.36) 0.390	0.74 (0.15 – 3.56) 0.704
Size of household					
<6	196 (66.0)	57 (59.4)			
6-10	89 (30.0)	32 (33.3)			
11+	12 (4.0)	7 (7.3)	(2.35) 0.309		
Occupation					
Unemployed	34 (11.4)	9 (9.4)			
Student	20 (6.7)	2 (2.1)			
Farming	45 (15.2)	15 (15.6)			
Artisan	49 (16.5)	18 (18.8)			
Trader	149 (50.2)	52 (54.2)	(3.54) 3.54		
How long from now have you been doing this job					
<10	206 (69.4)	75 (78.1)			
10-27	70 (23.6)	16 (16.7)			
30+	21 (7.1)	5 (5.2)	(2.74) 0.254		
Average household income					
<500	243 (81.8)	85 (88.5)			
500-800	21 (7.1)	6 (6.3)			
1000+	33 (11.1)	5 (5.2)			
Have you ever been involved in any					
mining activity in the past 12 months					
No	212 (71.4)	65(67.7)			
Yes	85 (28.6)	31 (32.3)	(0.47) 0.493		

Has any of your close relations (child or husband or someone you stay together with) been involved in any mining activity					
No	164(55.2)	33(34.4)		Ref	Ref
Yes	133(44.8)	63 (65.6)	**(12.61) <0.001**	**2.35 (1.46 – 3.80) 0.000**	**3.06 (1.81 – 5.17) 0.000**
What is your primary source of water?					
Ground water (well, borehole)	162 (54.5)	52 (54.2)			
Pipe borne water	125 (42.1)	40 (41.7)			
Surface water (river, stream etc.)	10 (3.4)	4 (4.2)	(0.14) 0.935		
Private toilet					
No	197(66.3)	72(75.0)			
Yes	100(33.7)	24(25.0)	(2.53) 0.112		
Chronic ailment					
I prefer not to say	4(1.3)	14(14.6)		Ref	
No	251(84.5)	60(62.5)		0.07(0.02-0.21) 0.000	
Yes	42(14.1)	22(22.9)	**(35.63) < 0.001**	0.15(0.04-0.51) 0.002	
Overall health					
Good	162(54.5)	31(32.3))		Ref	
Normal	84(28.3)	20(20.8)		1.24 (0.67 – 2.31) 0.490	
Poor	51(17.2)	45 (46.9)	**(35.04) < 0.001**	4.61 (2.65 – 8.03) 0.000	
Education about skin disease					
No	231 (77.8)	70 (72.9)			
Yes	66(22.2)	26(27.1)	(0.96) 0.328		

DISCUSSION Prevalence of skin disease

The intention of the current survey was to determine how common skin conditions were among the female residents of the Mpohor district. The study found that, the prevalence of skin diseases was high

among 24.4% and poor among 75.6% of the women studied. Similar to this finding, a study by Shrestha and colleagues ascertained the prevalence of skin conditions found a rate of 22.5% among women (Shrestha et al., 2012).

Contrary to this finding, a study by Dessie and colleagues to ascertain the occurrence of skin conditions found a high prevalence of 61.2% among the women of Northern Ethiopia (Dessie et al, 2022). Also, in Nigeria, a study discovered a prevalence rate of 66.5% of skin diseases among females (Oyedepo et al., 2020). The low prevalence of skin condition as found among the women of Mpohor could be possibly linked to their high knowledge level on skin conditions and good attitude towards the control and prevention of skin diseases.

Although, the prevalence as found in this study is low, efforts should be made to prevent and control skin diseases. Skin diseases are related to a range of socioeconomic, psychosocial and health costs. Individuals with skin diseases usually experience psychological implications such as stress, anxiety, shame, isolation from social activities and low self-esteem. Further the presence of skin diseases brings about health costs associated with treatment and control of spread. It is therefore necessary to put in place measures that will further reduce the prevalence of skin diseases.

Level of knowledge of skin diseases

This current survey also discovered that, the level of knowledge on skin diseases among the women of Mpohor district was good. About 74.3% of the women exhibited good level of knowledge and about 25.7% of them had poor knowledge on skin diseases. About 92.6% of the women affirmed that, poor personal hygiene is a major cause of skin diseases. Meanwhile, only few studies have been conducted to ascertain the level of knowledge of women on skin diseases.

A study in Saudi Arabia found that only 24.1% of respondents had good knowledge of skin diseases and concluded that there was inadequate knowledge of skin diseases among the Hail population in Saudi Arabia (Ahmed et al., 2020). In a similar survey in Canada, it was discovered that knowledge and awareness about occupational skin diseases were low (Holness et al., 2017). Further, in Pakistan, it was found that only 14% of the respondents had an awareness of skin conditions in diabetes and the majority of the respondents did not know that having diabetes is a risk factor for skin diseases (Hussain et al., 2010).

The high level of knowledge found in this study could be due to the fact that, greater part of the participants had at least basic level of education. The level of education of people has been associated with their level of knowledge and awareness on many health conditions including skin diseases. Also, knowledge is an essential factor in the control and prevention of skin diseases. When women have adequate knowledge on skin diseases, then they are able to make informed decisions and choices which will protect them against skin diseases.

Attitude towards the control and prevention of skin diseases

This study also aimed at ascertaining the attitude of women of Mpohor district towards the control and prevention of skin diseases. The study found that, 76.6% of the respondents had good attitude while 23.4% of them had poor attitude towards the control and prevention of skin diseases. About 91% of the study participants believed that learning more about their skin such as the causes and prevention strategies is important to them.

Similar to this finding, a survey conducted among females in Ghana to assess the attitude towards skin disease prevention also found high level of good attitude (Marks et al., 2017). In the study, about 72.7% of the respondents stated that, if they had skin disease, they would seek health care at a nearby health

facility (Marks et al., 2017). A possible reason for the high level of good attitude found in this study could be due to the high level of knowledge of the people on skin diseases. Studies have reported a link between high knowledge level and good attitude towards the use of disease control and prevention measures (Marks et al., 2017).

The attitude of people towards the control and preventive measures is an essential element in the prevention of skin diseases. The attitude of communities and individuals is also essential in the access and utilization of available health care services meant to control and prevents skin diseases. Health education is necessary in order to address poor attitude of people towards the use of health services which will control and prevent skin diseases. These health education sessions should be targeted toward the believes of people on the effectiveness of available health services which will control and prevent skin diseases.

Factors associated with the development of skin diseases

This current study found marital status and engagement of a relative in mining activity to be statistically significant with the prevalence of skin diseases. In this study, it was found that, participants who were divorced were 4.94 times more likely to have skin diseases compared to those who were not divorced. Similarly, a study by Yew et al. (2020), observed that, women with skin diseases were more likely not to be married.

This finding could be due to the fact that, skin disease presents with inability to participate in social activities and associate with relatives and friends. Moreover, the absence of loved ones and lack of social support and relations could be the reason for poor efforts to prevent skin diseases. This study also found that, study participants who had a relative being engaged in mining activity were 3.06 times more likely to develop skin diseases compared to those who had no relative engaged in mining activity.

Similarly, a study conducted by Kawshar & Rajesh also found that, a family history of skin diseases is positively associated with the prevalence of skin diseases (Kawshar & Rajesh, 2013). This could be due to the fact that certain skin diseases are contagious. Hence, the involvement of a relative in mining activities meant that, these participants were also exposed to either the mining related chemicals or to the skin diseases developed by their relatives participating in mining activities.

RECOMMENDATION

Based on the findings, this study recommends that, although prevalence of skin diseases was low among respondents, efforts should be made to educate women in Mpohor district on the importance of preventing and controlling skin diseases. Moreover, education on the transmission of skin diseases should be strengthened such that, individuals with relatives engaged in mining activities would understand the need for them to protect themselves against skin diseases.

Moreover, for the few people who had poor attitude towards the control and prevention of skin diseases, there is a need to conduct more detailed studies such as qualitative studies in order to better understand their believes towards the prevention of skin diseases.

CONCLUSION

In conclusion, a prevalence rate of 24.4% of skin diseases was discovered among women in rural communities of Mpohor district. Moreover, a good or adequate level of knowledge on skin diseases was found among the respondents. In addition, the study revealed good attitude of the respondents towards

the control and prevention of skin diseases. The high level of knowledge found in this survey could be ascribed to the fact that all respondents had at least basic level of education.

Moreover, this high level of education led to the good attitude towards control and prevention of skin diseases as the study discovered. There is a need to focus interventions at women living in mining areas in order to educate and protect them against skin diseases. This will lead to an improvement on their psychosocial wellbeing and health in general.

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Declaration of Competing Interest

None

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