



## Knowledge Perception and Attitude Towards Vitiligo Among Female Traders at Bodija Market Ibadan, Oyo State, Nigeria

**Tenny-Taiye Marian Aimofumhe, BSc (Ekpoma), MPH (Ibadan)**

Department of Health Promotion and Education (HPE) College of Medicine, Faculty of Public Health, University of Ibadan, Ibadan, Oyo State Nigeria

### ABSTRACT :

Vitiligo is an autoimmune disorder characterized with selective destruction of melanocytes, causing white patches/spots on the skin. Misconception about vitiligo led to stigmatization of vitiligo patients. In midst of several studies on vitiligo, no investigation has been carried out on a specific population like female traders in an open market setting.

A semi-structured interviewer-administered questionnaire was used to document all variables. Knowledge of vitiligo was measured using 30 points scale with the mean score of 27.74 for categorization. Knowledge score  $\leq 27.74$  was categorized as low while  $\geq 27.74-30$  was categorized as high. Perception of the respondents was measured using 63 points scale,  $\leq 42$  was categorized as poor while  $\geq 42$  was categorized as good. Attitude of the respondents was measured using 42 points scale,  $\leq 28$  was categorized as negative while  $\geq 28$  was categorized as positive. The quantitative data collected were analyzed using descriptive and inferential statistics. The level of significance; p-value was ( $p=0.044$  and  $p=0.05$ ).

Mean age of respondents was  $41.4 \pm 12.2$  years, 96.5% of the respondents had high knowledge of vitiligo with mean score of  $27.7 \pm 2.0$ , 97.7% of the respondents demonstrated good perception while almost all the respondents (99.2%) showed positive attitude towards vitiligo. 12.9% were undecided and 12.4% disagreed. A significant proportion of the respondents (68.1%) had a positive attitude towards vitiligo, 18.5% were undecided, and 13.4% had a negative attitude towards vitiligo. Fisher's Exact test showed there was nexus between knowledge and perception of the respondents ( $p\text{-value} = 0.044$  and  $p=0.05$ ). Females showed high knowledge of vitiligo (97%), good perception (98%) and positive attitude (68.1%).

**Keywords:** Knowledge, Perception, Attitude, Vitiligo, Female Traders, Autoimmune Disorder

### Background to the Study

The disruption of the normal and systematic functioning of the immune system which results in the immune system mistakenly attacking its own tissues/cells, the resultant effect is the destruction of melanocytes the peculiar body cells in the epidermis of the skin, hair follicles, eyes and other body parts. Melanocytes' primary function is the production and distribution of melanin in the body. Melanin is the pigment that gives colour to the skin hair eyes and protects the skin from harmful effects of ultraviolet rays (UVR) from the sun, protects against damage to deoxyribonucleic acid (DNA) and reduces the risk of skin cancer (Afewerki, Mezgebe, Teklemehdin, Tesfay, Meles et al 2020, Ogunbor and Okwara 2021). Much research has not been done on a specific population like female traders who experiences environmental stressors and some depigmentation. In Nigeria, vitiligo remains a poorly understood skin condition with significant stigma and misconceptions about its causes and treatment (Ogunbiyi 2020). Many individuals attribute the disorder to witchcraft, hereditary curses, or spiritual punishment leading to social isolation and a reluctance to seek medical care (Adejumo et al 2021). The perception of vitiligo as a mysterious or incurable disease exacerbates the challenges faced by affected individuals particularly in rural and semi-urban areas where health education is limited. Withdrawal, social segregation, discrimination, stigmatisation often experienced by people living with vitiligo negatively impact their daily functions as individuals. From the National and Regional Prevalence Estimates, the prevalence of vitiligo in Nigeria is much higher compared to global statistics. Reported rates of vitiligo in Nigeria ranges from 2.8% to 6.6% indicating a higher prevalence unlike the world prevalence of the severity of vitiligo as a skin disorder is a health challenge that has been of traditional interest because right from ancient Egyptian, Indians and Africans traditional medicines, herbal treatment has been used in the prevention of vitiligo progression with a determined effort to completely provide cure of the skin disease. (M. Picardo, R.H. Huggins, Jones et al 2022, Pike 2021).

### Objectives

My main purpose was; investigated the knowledge, perception, and attitude towards vitiligo among female traders in Bodija market, assessed the knowledge proportion of female traders in Bodija market about vitiligo, examined the perception of female traders in Bodija market about vitiligo and assessed the attitude of the female traders in Bodija market towards individuals living with vitiligo.

## Methods

### Study Design

This study adopted a cross-sectional survey in order to investigate the Knowledge, Perception and Attitude towards Vitiligo among female traders in different clusters and sections of Bodija market in Ibadan North Local Government Area of Oyo State.

### Sample size

In order to ascertain the sample size of this scientific investigation, the Leslie Kish formula was used. A confidence interval of 95% and marginal error of 5% at a standard normal value of 1.96 with a prevalence of 25.3% from the study: assessing the knowledge, perception and attitude of Bodija female traders about vitiligo Passeron, Bibeau, (2021). Knowledge perception and attitude of vitiligo among female traders Pandya, Ezzedine, Jones, Gao, Lindly et al (2022). Leslie Kish formula was used to determine the sample size.

$$\text{Sample size (n)} = (Z^2 P(1-P))/d^2$$

$$P = 68.3\% = 0.683$$

$$q = 1 - P$$

$$q = 1 - 0.683 = 0.317$$

$$Z^2 = (1.96)^2 = 3.8416 \text{ (95\% confidence interval)}$$

$$d^2 = 5\% = (0.05)^2 = 0.0025 \text{ (marginal error)}$$

$$\text{The sample size (n)} = 3.8416 \times 0.683 \times 0.317 / 0.0025$$

$$= 0.83175 / 0.0025$$

$$= 332.7$$

$$N = 333$$

$$\text{A non-response rate of 20\% of } 333 = 20/100 \times 333 = 66.6 = 67$$

Hence, total number of sample size was approximately 400 respondents (332.7+66.6) 40 female traders of the sample size were used for the pre-test at Oje market in Ibadan North East Local Government of Oyo State.

### Data Analysis and Management

To evaluate the internal consistency of the data collection tool, a reliability test was conducted using Cronbach Alpha. With the constructs/scale (Perception of vitiligo and Attitude towards vitiligo) was within the 'Acceptable' range with Cronbach Alpha values of 0.792 and 0.734 respectively. Except for the knowledge of vitiligo which was 'Good' (0.854). The overall reliability of the research instruments was 'Good', indicating a Cronbach's Alpha value of 0.843. A descriptive analysis of the data was done to obtain the frequency counts, percentages, means and standard deviations as well as inferential statistics. The inferential analysis was conducted using chi-square and logistic regression. The association between variables and categories were investigated using chi-square test with the significance level set at  $P \leq 0.05$  and the logistic regressions were performed to test for association between the variables of interest.

### Instruments for data collection

A semi-structured interviewer administered questionnaire was used. The questionnaire was translated to Yoruba language to enhance the understanding of the female traders in order to accurately assess their knowledge level and perception about vitiligo and their corresponding attitude towards people living with vitiligo. Responses from the questions were documented as data collected.

### Data collection Techniques

An informed consent form was issued to the participants. The participants were interviewed to get their responses. The principal investigator and the research assistants ensured that all questionnaires were completely filled before leaving the field.

## Results

### Knowledge of Vitiligo among respondents

The knowledge of vitiligo among female traders in Bodija market as represented in the result revealed a high level of awareness regarding the condition and its implications. A good number (74.9%) of the respondents agreed there is all possibility unrestricted white patches and spots in the skin of vitiligo patients can lead to skin cancer (melanoma). A reasonable number of the women (82.3%) also have the opinion that white spots or white patches on the skin of affected individuals can reflect a serious health problem. In the assessment of the knowledge proportion of the respondent view of topical application of neem water extracts, 85.1% of the women acknowledged the usefulness of neem water as herbal extract remedy for stopping vitiligo progression. we can put an end to this skin disorder in affected individuals. Majority of the respondents (94.7%) are not aware vitiligo is a serious skin disease.

*1.1. Tabular Analysis***Table 1: Knowledge of vitiligo among respondents (N = 395)**

Variable	Frequency	Percentage (%)
Unrestricted white spot patches on the skin can lead to skin cancer	296	74.9
White spots/patches on the skin are a serious health problem	325	82.3
Neem topical application can heal skin white patches and spots	336	85.1
Black pepper in food helps in stopping vitiligo patches/spots	333	84.3
Regular eating of walnut/adequate diet stop vitiligo progression	344	87.1
There is herbal and clinical treatment for vitiligo	329	83.3
Environmental stressors and genetics stimulate vitiligo	322	81.5
Vitiligo is a communicable disease	293	74.2
Vitiligo usually spread over the body once white patches start	340	86.1
There are surgical alternatives for vitiligo treatment topical application	327	82.8
Vitiligo can develop in people living in unhygienic condition	345	87.3
Vitiligo is classified as the junior brother of leprosy	337	85.3
Vitiligo is caused by the continuous eating certain type of dead food	351	88.9
We can put an end to the problem of vitiligo in affected individuals	381	96.5
Many people are not aware white spots on the skin means diseased skin	374	94.7

Positive responses indicated

*Perception of vitiligo among respondents*

The perception of vitiligo among female traders in Bodija market was displayed in Table 4.3. The result showed that respondents have a significant understanding and good perception toward this skin condition. Interestingly, 42.8% of respondents consider white patches on the skin to be normal, contrasting with the 33.7% who disagree with this statement. This percentage of market women sees vitiligo as an abnormal in the skin of affected persons. An average number (65.6%) of the respondents think that this skin patches and spots is a serious health condition that has to be attended to.

Majority of the respondents (71.4%) have the idea that persistent exposure to UVR (ultra violet rays) from the sun can as well stimulate vitiligo. A good number (68.6%) of the respondents are experiencing white spots and patches on their skin. Most of the respondents (77.5%) believe that when people sweat continuously, they stand the chance of experiencing vitiligo.

Most of the respondents (72.2%) says they have not notice white patches on their skin. Most of the respondents (82.0%) believes vitiligo progression can be stopped. A good number (72.2%) of the respondents in this study also believe that white vitiligo patches develop in children. Majority (77.0%) of the research participants in this investigation believes covering with umbrella under the sun prevents vitiligo stimulation and development. Most of the respondents (75.9%) believes children from twelve years and above with genetic inclination can develop vitiligo symptoms. A good number (79.5%) of the respondents know people/relatives and friends living with white patches/spot. A high number of the respondents (86.1%) sees vitiligo as a serious health problem. Most of the respondents (87.2) % believe depigmented skin can be re-pigmented. Majority (81.3%) of the respondents think that eating copper rich food like walnut will enhance melanin production. 74.4% of the participants admit that environmental stressors can be prevented to avoid spark of vitiligo.

**Table 2: Perception of vitiligo among respondents (N = 395)**

<b>Variable</b>	<b>Agree Freq (%)</b>	<b>Undecided Freq (%)</b>	<b>Disagree Freq (%)</b>
White patches on the skin are normal	<b>169 (42.8)</b>	<b>93 (23.5)</b>	<b>133 (33.7)</b>
Vitiligo is a serious health problem that deserves attention.	<b>259 (65.6)</b>	<b>76 (19.2)</b>	<b>60 (15.2)</b>
Being in the hot sun always can stimulate vitiligo	<b>282 (71.4)</b>	<b>76 (19.2)</b>	<b>37 (9.4)</b>
There are white patches or spots on your skin	<b>217 (68.6)</b>	<b>57 (14.4)</b>	<b>67 (17.0)</b>
Continuous sweating increases the chances of vitiligo	<b>306 (77.5)</b>	<b>64 (16.2)</b>	<b>25 (6.3)</b>
You never noticed white patches or spots on your skin	<b>62 (15.7)</b>	<b>62 (15.7)</b>	<b>48 (12.2)</b>
White spots/patches on the skin a health problem	<b>313 (79.2)</b>	<b>53 (13.4)</b>	<b>29 (7.3)</b>
Vitiligo progression can be stopped	<b>324 (82.0)</b>	<b>53 (13.4)</b>	<b>18 (4.6)</b>
White patches also develop in children	<b>285 (72.2)</b>	<b>71 (18.0)</b>	<b>39 (9.9)</b>
Can you tell if children of a certain age develop white patches on their skin?	<b>290 (73.4)</b>	<b>67 (17.0)</b>	<b>38 (9.6)</b>
Will covering with an umbrella prevent development of vitiligo?	<b>304 (77.0)</b>	<b>54 (13.7)</b>	<b>37 (9.4)</b>
Ten/twelve years old child with genetic stressors can develop vitiligo	<b>300 (75.9)</b>	<b>48 (12.2)</b>	<b>47 (11.9)</b>
Do you know any relatives/friends with white patches on their skin?	<b>314 (79.5)</b>	<b>32 (8.1)</b>	<b>49 (12.4)</b>

Are white patches on the skin a serious health problem?	<b>340 (86.1)</b>	<b>15 (3.8)</b>	<b>40 (10.1)</b>
Can depigmented skin be re-pigmented with herbal neem/piperine?	<b>340 (87.2)</b>	<b>28 (7.1)</b>	<b>27 (6.8)</b>
Will eating copper rich food like walnut enhance melanin production?	<b>321 (81.3)</b>	<b>57 (14.4)</b>	<b>17 (4.3)</b>
Environmental stressors can be prevented to avoid spark of vitiligo	<b>294 (74.4)</b>	<b>71 (18.0)</b>	<b>30 (7.6)</b>

Positive responses indicated

#### *Attitude towards vitiligo among respondents*

The information on the attitude of female traders in Bodija market in Ibadan was represented in Table. The output showed the participants (77.7%) in this study believe that most people living with vitiligo (white patches/spots) do not treat this skin disorder but rather result to cosmetic camouflage. Meanwhile 75.7% of the respondents reported that vitiligo patients most times enjoy sympathy from friends, relatives and care givers. According to Agarwal et al (2020), people avoid vitiligo patients because of their misconception about the skin disease, this is in direct contrast with the claim of 77.5% of the respondents who assert that the society relates cordially with people living with vitiligo and a large proportion (79.7%) of the participants claim they can eat with people living with vitiligo. More than half of the respondents (78.8%) ascertain employer refusal to employ people living with vitiligo. Most of the respondents (86.6%) accept the notion that vitiligo patients do not deserve the rejection they experience. A large number of the respondents (81.0%) claim people usually avoid people living with vitiligo white patches and spots. Greater percentage of the respondents (86.3%) says having white patches on the skin can lead to societal rejection. Almost all the participants (91.6%) claim vitiligo can be prevented and treated. Most participants (87.3%) claim people do not care about you when you have depigmented skin.

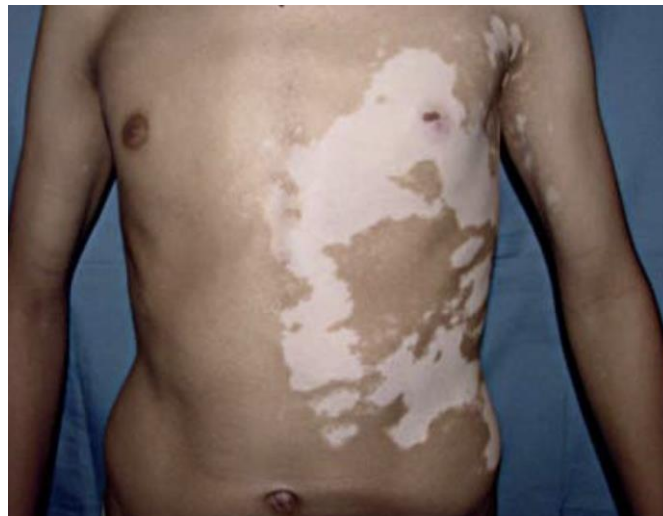
Table 3: Attitude towards vitiligo among respondents (N=395)

<b>Variable</b>	<b>Agree Freq (%)</b>	<b>Undecided Freq (%)</b>	<b>Disagree Freq (%)</b>
People always treat white patches and white spots on their skin	<b>307 (77.7)</b>	<b>64 (16.2)</b>	<b>24 (6.1)</b>
Vitiligo patients most times enjoy sympathy from family members, friends and caregivers	<b>299 (75.7)</b>	<b>(15.7)</b>	<b>34 (8.6)</b>
Society relates cordially with people living with vitiligo	<b>306 (77.5)</b>	<b>59 (14.9)</b>	<b>30 (7.6)</b>
You can eat with individuals with spotted skin	<b>315 (79.7)</b>	<b>51 (12.9)</b>	<b>28 (7.1)</b>
Vitiligo patients get married to partners of their choice	<b>304 (77.0)</b>	<b>60 (15.2)</b>	<b>31 (7.8)</b>
Individuals living with vitiligo proudly tell their experiences	<b>308 (78.0)</b>	<b>65 (16.5)</b>	<b>22 (5.6)</b>
People living with vitiligo are stigmatized	<b>315 (79.7)</b>	<b>54 (13.7)</b>	<b>26 (6.6)</b>

Vitiligo is a skin condition that requires proper diagnosis	325 (82.2)	47 (11.9)	21 (5.3)
Employers willingly hire people living with vitiligo	311 (78.7)	48 (12.2)	36 (9.1)
Vitiligo patients do not deserve the rejection they experience	342 (86.6)	39 (9.9)	14 (3.5)
People usually avoid individuals with white patches and spots on their skin	320 (81.0)	41 (10.4)	34 (8.6)
Having white patches on the skin can lead to societal rejection	341 (86.3)	33 (8.4)	21 (5.3)
Vitiligo can be prevented and treated	362 (91.6)	21 (5.3)	12 (3.0)
People do not care about you when you have depigmented skin	345 (87.3)	34 (8.6)	15 (3.8)

## Illustrations

Fig 1: Below is an image of a person with segmental vitiligo



## 6. Conclusion

Some of the female traders unexpectedly have high knowledge about vitiligo compared to some of the women with low knowledge. There is a significant gap in knowledge and this is the primary rationale behind the misconception, superstition beliefs, misinformation and the associated stigmatization, discrimination and bias against vitiligo patients (Kruger & Schallreuter, Motallebi et al 2021). Another point worth this study is the cultural notions communities have about vitiligo. In places where vitiligo awareness is in its barest minimum, people exhibited negative attitude towards individuals living with vitiligo (Pike 2020). Health education campaign about vitiligo can help be a good source of providing accurate information that will better educate communities and people with knowledge of vitiligo (Fatai et al 2022). The goal of reducing or possibly eradicating social rejection and stigmatization of people living with vitiligo is achievable while improving on the quality of life of vitiligo patients. Efforts should be made to cultivate the culture of eating organic plant foods rich in copper and antioxidants to facilitate natural re-pigmentation for affected persons. Foods like walnuts, almonds, sesame, black pepper rich in pepperine, Chia seeds, Flaxseeds, green leafy vegetables are a major boost to enhance melanocytes functions. Drinking onion peels and dried hibiscus flower (zobo) tea is a good source of melanin regeneration as the antioxidants neutralizes oxidative stress. Topical application of neem water extract is a good way to stop progression of depigmentation.

Plant-based skin care products like black soap, shea-butter, coconut oil are all natural remedies for re-pigmentation. The high prevalence of vitiligo skin disease in many of the respondents investigated in this study is an indication of the negative effects of continuous exposure to ultra violet rays (UVR) from the sun. More need to be done in a cautious effort to promote awareness among the communities of the study population to overcome stigma of all sorts and improve on the dermatological health of people living with vitiligo.

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