

Original Article

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Psychological and social adjustment to blindness: Understanding from two groups of blind people in Ilorin, Nigeria

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Abstract

Background: Blindness can cause psychosocial distress leading to maladjustment if not mitigated. Maladjustment is a secondary burden that further reduces quality of life of the blind. Adjustment is often personalized and depends on nature and quality of prevailing psychosocial support and rehabilitation opportunities. This study was aimed at identifying the pattern of psychosocial adjustment in a group of relatively secluded and under-reached totally blind people in Ilorin, thus sensitizing eye doctors to psychosocial morbidity and care in the blind.

Materials and Methods: A cross-sectional descriptive study using 20-item Self-Reporting Questionnaire (SRQ) and a pro forma designed by the authors to assess the psychosocial problems and risk factors in some blind people in Ilorin metropolis.

Result: The study revealed that most of the blind people were reasonably adjusted in key areas of social interaction, marriage, and family. Majority were considered to be poorly adjusted in the areas of education, vocational training, employment, and mobility. Many were also considered to be psychologically maladjusted based on the high rate of probable psychological disorder of 51%, as determined by SRQ. Factors identified as risk factors of probable psychological disorder were poor educational background and the presence of another medical disorder.

Conclusion: Most of the blind had no access to formal education or rehabilitation system, which may have contributed to their maladjustment in the domains identified. Although their prevailing psychosocial situation would have been better prevented yet, real opportunity still exists to help this group of people in the area of social and physical rehabilitation, meeting medical needs, preventive psychiatry, preventive ophthalmology, and community health. This will require the joint efforts of medical community, government and nongovernment organizations to provide the framework for delivery of these services directly to the communities.

Keywords: Adjustment, blindness, Nigeria, psychological and social

Résumé

Background: Cécité peut entraîner une détresse psychosociale menant à l'inadaptation sinon atténués. Inadaptation est un fardeau secondaire qui réduit davantage la qualité de vie des personnes aveugles. Ajustement est souvent personnalisé et dépend sur la nature et la qualité des dominantes possibilités de soutien et de réadaptation psychosociales. Cette étude visait à identifier le patron de l'ajustement psychosocial dans un groupe de relativement isolée et sous-atteint totalement aveugle gens en Ilorin, ainsi sensibiliser les médecins de le œil de morbidité psychosociale et de soins à l'aveugle.

Matériaux et procédés: Une étude descriptive transversale à l'aide de 20-item Self-Reporting Questionnaire (SRQ) et un pro-forma conçu par les auteurs pour évaluer les problèmes psychosociaux et les facteurs de risque chez certaines personnes aveugles dans Metropolis Ilorin.

Résultat: L'étude a révélé que la plupart des personnes aveugles ont été raisonnablement ajustée dans des secteurs clés de l'interaction sociale, mariage et famille. Majorité devaient être mal ajusté dans les domaines de l'éducation, la formation professionnelle, emploi et la mobilité. Beaucoup ont également été examinés pour être psychologiquement inadaptés basé sur le taux élevé des troubles psychologiques probable de 51%, tel que déterminé par SRQ. Facteurs identifiés comme facteurs de risque de probables trouble psychologique étaient pauvres antécédents éducatifs et la présence d'un autre trouble médical.

Conclusion: La plupart des aveugles n'avait pas accès à l'éducation formelle ou système de réadaptation, qui peut-être avoir contribué à leur inadaptation dans les domaines identifiés. Bien que leur situation psychosociale qui prévaut aurait été mieux empêché encore, véritable opportunité existe toujours pour aider à ce groupe de personnes dans le domaine social et physique réhabilitation, rencontre les besoins médicaux, psychiatrie préventive, ophtalmologie préventive et la santé communautaire. Il faudra aux efforts conjoints de medical organisations communautaires, gouvernementaux et non gouvernementaux pour fournir le cadre de la prestation de ces services directement auprès des communautés.

Mots clés: Ajustement, cécité, Nigéria, psychologique et social

Introduction

Blindness continues to be a major health burden globally.^[1] The current burden of blindness in Nigeria is estimated at 1 million blind adults and 3 million visually impaired people, with about two-third of these blind people having avoidable causes of blindness.^[2] World Health Organization (WHO) defines blindness as visual acuity of less than 3/60 or corresponding visual loss to less than 10 degrees in the better eye with the best possible correction.^[3,4]

Although the global average prevalence of blindness is estimated at 0.7%, ranging from 0.3% in developed countries to 1.4% in the developing,^[3] in Nigeria prevalence vary from region to region,^[5-8] and the national average is put at about 1%.^[5] It is put at 4.2% in individuals over 40 years in a recent national eye survey.^[9]

Although cataract is the commonest cause of blindness in Nigeria accounting for more than one-third of cases, glaucoma, corneal scarring, and poor procedure for cataract surgery are also important causes.^[2,5-8] The contribution of river blindness or onchocerciasis and trachoma is also substantial, accounting for about 5% of blindness in Nigeria.^[2] About 82% of blind people globally are 50 years and above in age;^[4] this pattern also characterizes Nigeria.^[5,6,10]

Blindness, like most other chronic disorders, can cause psychosocial distress leading to maladjustment, if not mitigated.^[11] Maladjustment is a negative and dysfunctional outcome which is important, because it is a secondary burden capable of further reducing the quality of life of the blind by aggravating or creating supplementary psychosocial distress. Adjustment is described as the process of responding to life's demands and stresses.^[12] People differ greatly in their ability to tolerate stressful experiences.^[13]

Often, adjustment and maladjustment are not phenomena that can be generalized; they are often personalized, peculiar and depending on individual experiences, family life, education, socioeconomic status, etc.^[14,15] Nonetheless, there is agreement that majority of people with chronic physical illness are well adjusted, only a few develop psychiatric complications;^[16] the determinants of this maladjustment has engaged researchers.

Psychosocial maladjustment to physical illness depends on coping strategy and/or resources available or used.^[17-20] Therefore, psychosocial adjustment can be influenced by external factors such as age, sex, social class, educational status, financial status, marital status, cultural practices, stigmatization, family functioning, formal and informal support systems, and internal factors such as personality and self concept. For example, in blindness, factors such as positive personality trait, positive self concept, being young, having good financial standing, moderate to high socioeconomic levels, good social relations, avoidance of social isolation, social independence, and use of rehabilitation facilities have been considered as lowering risk of psychopathology.^[15,21-23] Age of onset of blindness and its duration have also been considered as capable of influencing maladjustment, although generally controversial and inconclusive.^[15,24]

Blindness is known to create or aggravate many social and psychological handicaps,^[15] for example, difficulty getting educated, unemployment, street begging, and attendant poor quality standard of life afflict many blind people in Nigeria.^[25,26] Social stigma and difficulty getting married are other examples of their social problems.^[27] The degree of social dependence may suggest to some extent the level of social handicap and maladjustment.^[23]

The social and psychological handicaps that result from blindness are not invariable but a product of

the rehabilitation process. Rehabilitation is an active process whereby the blind is helped to get adjusted to their disability, become an independent and useful part of the society; it thus improves psychosocial wellbeing of the blind.^[22,28,29]

Rehabilitation can be described as formal or informal; the former is organized, deliberate, and institutional, whereas the latter is accidental, uncoordinated, and self driven and often of poor outcome. A very important part of the formal rehabilitation process is psychological counselling, which is often taken care of in rehabilitation centres by trained psychologists and social workers.

There are a large proportion of blind people in Nigeria who do not have the benefits of formal rehabilitation in rehabilitation centres scattered across the country because of ignorance, lack of access, and institutional inadequacies bordering on poor funding, manpower, and infrastructure.^[25,30] This group is left with the informal rehabilitation, which is a process of self-adjustment that is painful, disjointed, and often leading to suffering and poor quality of life.

It is important to mention that successful rehabilitation apart from being a multidisciplinary procedure requires the help of family, friends, society, and government.^[15,28] Family, friends, and society ease adjustment to visual loss by listening and offering help. Vision rehabilitation is both a family and community affair; it should involve everybody.^[29] A blind-rehabilitation-friendly environment is critical. For example in Nigeria, the absence of walking kerbs dedicated for the disables and audible signals installed in traffic lights to alert the blind when it is safe to cross the roads make the roads unfriendly for the visually impaired.^[29]

Ideally for any blind patient, the eye doctor should look for maladjustment in social-economic functioning (unemployment, difficulty in unaided mobility, and poor community participation), inadequate quality of everyday life (difficulty getting married, marital problems, family dysfunction, and inadequate support and management compliance, etc), and how to initiate or sustain the rehabilitation process.^[16] This is where the patient comes into contact with the orthodox medical system. In Nigeria, many people are at risk of psychosocial dysfunction because they do not have access to eye care resources and to the formal rehabilitation system. And where they have contact, poor quality infrastructure and manpower deny them the quality of care that can effectively mitigate maladjustment.

We suspected that our cohort was at risk category,

who did not use or access the formal rehabilitation system and we were interested in knowing how adjusted or maladjusted they were from this study. This is with a view to planning an interventional programme that will include eye and psychosocial care, which may then be replicated in other parts of the country, especially in the northern part where these people abound.

Eye care doctors in collaboration with psychiatrists, helping to identify psychosocial maladjustments, risks factors, coping resources in blind patients and their families, can prevent or lessen much of psychiatric morbidity in people with blindness.^[31]

Modification or amelioration of factors associated with maladjustment and strengthening of those associated with adjustment becomes the main strategy.

Materials and Methods

Study design and population

This is a cross-sectional descriptive study of a population of totally blind people in Ilorin, Nigeria over a period of two months. The study population was composed of two subgroups namely: a subgroup of blind people living in a suburban area of the town (SBC group) and another belonging to a blind people association in the town (BA group).

Location and background

The study was carried out in Ilorin, the capital city of Kwara state, one of the 36 states in Nigeria located in the North central zone of the country. Ilorin is inhabited predominantly by the Yorubas, one of the major ethnic groups in Nigeria, and the indigenes are predominantly Muslims. The SBC group live communally in a distinct area with a leader or head who oversees the day to day running of the structure. The blind association group has a place of regular meeting.

Sampling

The blind people were selected consecutively in the communities where they lived or operated based on their willingness and consent to participate.

Data collection

The Self-Reporting Questionnaire (SRQ-I) was used to assess them for probable psychological disorder. And, a pro forma questionnaire designed by the authors to gather information concerning the following areas of their lives namely: personal data; marriage and off springs; nature of blindness; education for blind people; family support; leads or assistants; handlings of money; and daily living activities.

The SRQ^[32] was constructed for use in the WHO study on strategies for extending mental health care.^[33] It is especially designed for screening of psychiatric disturbances in primary care setting.^[32] Each item in the questionnaire is answered Yes or No and has a score of 1 or 0, respectively.

SRQ-I was validated in a primary care setting in rural South-Western Nigeria and found to effectively discriminate between patients with and without psychiatric morbidity. This was best done at a cut-off point of five, which has the optimal sensitivity of 98.8% and specificity of 90.9%.^[33] This cut-off point was used for this study because of the similarities in clinical setting, culture, and language.

Before the use of SRQ and the Pro forma questionnaire, a translation and back translation of the instrument from English to Hausa language was done; a Yoruba version of SRQ earlier used by one of the authors was also used.

Before commencement of the study, visits were made to both groups to seek their cooperation and participation. For the SBC group, their leader was approached and a promise to enlist the cooperation of his subjects was contracted. Their cooperation was secured on the condition that data could only be collected in their homes and on Sundays and a member of their group assisted in recruiting participants. Also, the leadership of BA group was equally approached; their interview was conducted at their meeting centre on the last Saturday of each month, because they lived in different areas of the city.

Only participants who gave consent were interviewed. The BA group was interviewed in either English or Yoruba language which ever was preferred by two of the authors, whereas the SBC group was interviewed by two trained assistants who spoke Hausa language fluently, because this group could only communicate in Hausa language.

All the participants had their blood pressure checked and an ophthalmic examination was carried out by one of the authors assisted by the two research assistants. Attempt was first made to assess visual acuity with Snellen's chart. Second, further examination was done to detect the cause of visual loss. Anterior segments were examined with a loupe and where the media allowed for it, the fundus was examined using a direct ophthalmoscope. Visual loss was categorized according to WHO definition of visual impairment.^[3,4]

Data analysis

Data analysis was carried out using EPI-info version 6. Simple frequency tables were obtained and Chi-

square tests were performed to determine significant differences between various variables.

Results

Socio-demographic characteristics

There were 61 blind people interviewed: 47 (77%) from the SBC group and 14 (23%) from the BA group. The two groups were very similar in severity of visual loss. On the whole, men were in the majority (89% *vs* 11%), but the BA group had more female than the SBC group ($P = 0.001$).

Majority were older than 31 years and Muslims in the SBC group, but the BA group had more people under 31 years of age ($P = 0.003$) and more Christians ($P = 0.000$). Majority of the study population was formed by SBC group (mainly of Hausa ethnic group (77%) from Northern Nigeria who migrated southwards), had no Western education or vocational training, and were all street beggars; the BA group formed mainly by the Yoruba ethnic group (23%) were more likely to have had formal education ($P = 0.001$), vocational training ($P = 0.010$), formal jobs ($P = 0.000$), and earned more than 500 naira a day ($P = 0.000$). Majority had never used orthodox eye care before (77%), but the BA group were more likely to have used orthodox medical care at any point in time ($P = 0.000$). There was similarity in the two groups in reporting of desire to change jobs ($P = 0.335$).

In terms of family characteristics, majority (72%) were in a marriage relationship, about half of the married were in polygamous type and had being in marriage for greater than 10 years; in all the relationships there were children, one-third had five children or more. In majority of cases, their spouses were also blind in at least one eye (73%). The SBC group were more likely to be currently married ($P = 0.000$). The BA group were more likely to report having extended family support ($P = 0.000$) [Table 1].

Pattern of psychological maladjustment

The overall prevalence of psychological maladjustment based on a score of ≥ 5 on SRQ was 51%. Although the SBC group had a higher prevalence of probable psychological maladjustment (38/47: 60% *vs* 3/14: 21%), the difference was not statistically significant ($P = 0.111$). There was also no difference in the reporting of sadness ($P = 0.107$). In order to further explore the significant dissimilarity in psychological morbidity between cases and non-cases, the total for each item on the SRQ was used to classify the study population [Table 2]. Although cases scored higher than non-cases in all the items, the difference was significant

Table 1: Comparison of Socio-demographics and some blindness characteristics of the BA subgroup with the SBC subgroup

Variables	Total N = 61 N	SBC subgroup N1 = 47 n1 (%)	BA subgroup N2 = 14 n2 (%)	P Value
Age distribution (Years)				
15 – 30	21 (34)	13 (61)	8 (39)	0.003
31 – 45	8 (13)	4 (50)	4 (50)	
≥45	32 (56)	30 (94)	2 (6)	
Gender distribution				
Male	54 (89)	46 (85)	8 (15)	0.001
Female	7 (11)	1 (14)	6 (86)	
Religion				
Islam	54 (89)	47 (87)	7 (13)	0.000
Christianity	7 (11)	0 (0)	7 (100)	
Educational status				
No Western education	44 (15)	44 (100)	0 (0)	0.000
Some Western education	17 (57)	3 (100)	14 (0)	
occupational status				
Street begging*	47 (77)	47 (100)	0 (0)	0.000
Formal employment	14 (8)	0 (0)	14 (100)	
Marital status				
In a marriage	45 (80)	42 (93)	3 (7)	0.000
Not in a marriage	16 (20)	5 (31)	11 (69)	
History of previous orthodox treatment for blindness				
Yes	14 (23)	0 (0)	14 (100)	0.000
No	47 (77)	47 (100)	0 (0)	
Feelings about being blind				
Happy	17 (28)	10 (59)	7 (41)	0.107
Sad	33 (54)	28 (85)	5 (15)	
Indifferent	11 (18)	9 (82)	2 (18)	
Hope for a cure				
Yes	37 (61)	28 (76)	9 (24)	0.996
No	24 (39)	19 (79)	5 (21)	
Average income per day in Naira				
≤500	47 (77)	47 (100)	0 (0)	0.000
≥501	14 (23)	0 (0)	14 (100)	
Would like to change job				
Yes	54 (89)	43 (80)	11 (20)	0.335
No	7 (11)	4 (57)	3 (43)	
Had vocational training				
Yes	14 (23)	7 (50)	7 (50)	0.010
No	47 (77)	40 (85)	7 (15)	
Receives support from extended family				
Yes	15 (25)	3 (20)	12 (80)	0.000
No	46 (75)	44 (96)	2 (4)	
SRQ score				
<5	30 (49)	20 (67)	10 (33)	0.111
≥5	31 (51)	27 (87)	4 (13)	
Has any other disease				
Yes	10 (16)	9 (90)	1 (10)	0.420
No	51 (84)	38 (75)	13 (250)	

N = The total number of people in the study population; N1 = The total number of the SBC; N2 = The total number of the BA; Percentages in column brackets to the nearest whole number; P value= <0.05 is statistically significant

in all except five namely: ‘Do your hands shake?’, ‘Is your digestion poor?’, ‘Do you cry more than usual?’, ‘Do you feel you are a worthless person?’, and ‘Has the thought of ending your life been in your mind.’ Symptom analysis of the SRQ instrument suggests that each item may characterize either anxiety symptom or depressive symptom, or both. In this study [Table 2], the six highest scoring ‘symptoms’ in decreasing order are ‘feel unhappy,’ ‘daily work suffering as a result of illness,’ ‘feel

unable to play a useful role in life,’ ‘feel nervous, tense, and worried,’ ‘feel tired all the time,’ and ‘get easily tired.’ All except one are depressive symptoms albeit mild/moderate.

Correlates of psychological maladjustment

Selected characteristics of the blind people were used to compare those who have been classified as probable cases with psychological disorders and those who were not, in order to identify potential

Table 2: Comparison of positive items (Yes responses) score of probable 'Cases' and 'Non-cases' on SRQ

Variables	Total N (%)	Cases n1 (%)	Non- cases n2 (%)	P Value
Often have headaches	13 (21)	12 (39)	1 (3)	0.002
Appetite poor	12 (20)	11 (61)	1 (3)	0.005
Sleep badly	14 (23)	12 (39)	2 (6)	0.008
Feel easily frightened	14 (23)	12 (39)	2 (6)	0.008
Hands shake	6 (10)	5 (16)	1 (3)	0.195
Feel nervous, tense or worried	20 (33)	16 (52)	4 (13)	0.003
Digestion poor	5 (8)	3 (10)	2 (6)	1.000
Have trouble thinking clearly	7 (12)	7 (23)	0 (0)	0.018
Feel unhappy	38 (62)	24 (77)	14 (47)	0.027
Cry more than usual	9 (15)	7 (23)	2 (6)	0.147
Find it difficult to enjoy daily activities	19 (31)	16 (52)	3 (10)	0.002
Find it difficult to make decisions	10 (16)	9 (29)	1 (3)	0.012
Daily work suffering as a result of illness	29 (46)	21 (68)	8 (27)	0.003
Feel unable to play a useful part in life	27 (44)	22 (71)	5 (17)	0.000
Feel a worthless person	4 (7)	4 (13)	0 (0)	0.113
Lost interest in things	5 (8)	5 (16)	0 (0)	0.053
Thought of ending life being in mind	5 (8)	3 (10)	2 (6)	1.000
Feel tired all the time	18 (30)	17 (55)	1 (3)	
Have uncomfortable feelings in stomach	11 (18)	9 (29)	2 (6)	0.053
Get easily tired	18 (30)	17 (55)	1 (3)	0.000

N = 61 (Total number of people in the study population); N1 = 31 (Total Probable cases with psychological disorder); N2 = 30 (Total Non-cases with psychological disorder); n1, n2 = number of positive responses to each variable; % = n1/ N1; n2/ N2 and n1+ n2 / N percent (in column brackets to the nearest whole number); P = <0.05 is statistically significant

correlates of psychological morbidity [Table 3]; two variables, educational status and the presence of another physical disease were found to be significantly associated with the probable cases of psychological morbidity. Subjects with Western education were less likely to be cases (5/31: 16% *vs* 12/30: 40%; $P = 0.038$). Cases were also more likely to report that they had other physical diseases (9/31: 29% *vs* 1/30: 3%; $P = 0.012$). Other variables considered (not in Table 3), but not significantly associated, are average earning per day, perceived family support, hope for a cure, family history of blindness, fear of children getting blind, and responsibility for personal hygiene and cooking (relative or nonrelative).

Discussion

Adjustment enables the blind to live as normal a life as possible, comparable with people without disability in the community. Maladjustment is the outcome of negative adjustment. Maladjustment could mean dysfunction in a few or several domains of the person's life, but its effect is a secondary burden that further reduces quality of life. In so, doing it activates additional psychosocial stress and a vicious cycle may be initiated or perpetuated.

In our study, four domains of psychosocial maladjustment namely, psychological, family, marriage, and employment were assessed. There was some degree of maladjustment in the psychological domain based on a relatively high

rate of probable psychological morbidity of 51% in the study population, and an even higher rate for the SBC group. This prevalence compared with the findings in mothers with sickle cell disease children (28%)^[34] and mothers experiencing family violence (41%)^[35] is quite high, considering that these studies were done in the same environment with the same instrument. The fact that blindness has a profound effect on affected people has been well described. The various stages of psychological reaction have also been described. Eventually, many of them adjust but many also develop anxiety and/or depression which they carry for a long time.^[24] It was not therefore surprising that many of them scored high on SRQ.

Symptom profile analysis using positive item score on SRQ, points more in the direction of depression rather than anxiety, albeit mild to moderate depression. Thirty-eight (62%) people reported 'being unhappy' (the highest rated symptom), 27 (44%) reported 'not playing useful role in life,' and 29 (48%) reported 'daily work suffering because of illness.' These symptoms support core depressive symptoms of loss of energy, being unhappy, and loss of interest. This contrast with the low rating recorded by anxiety symptoms such as 'headaches' (13; 20%), 'feel easily frightened' (14; 23%), and 'hand shakes' (6; 10%). Physical symptoms like headache, loss of appetite, and poor digestion are less discriminatory as they occur in both depression and anxiety. The low positive item score for 'thought of ending life being in mind' supports the reasoning

Table 3: Comparison of probable cases and non probable cases identified by SRQ for demographic correlates

Variables	N = 61 n (%)	Cases (N1 = 31) n1 (%)	Non-Cases (N2 = 30) n2 (%)	P value
Age group in years				
≤30	21 (34)	8 (38)	13 (62)	0.242
≥31	40 (66)	23 (58)	17 (42)	
Duration of blindness in years				
10 or less	14 (23)	6 (43)	8 (57)	0.708
More than 10	47 (77)	25 (53)	22 (47)	
Educational status				
Some western education	17 (28)	5 (29)	12 (71)	0.038
No western education	44 (72)	26 (84)	18 (60)	
Current marital status				
In marriage	48 (79)	26 (59)	22 (41)	0.489
Not in marriage	16 (21)	5 (31)	11 (69)	
Blindness status of spouse				
Presence of blindness	34(30)	22 (65)	12 (35)	0.439
No blindness	11 (44)	7(64)	4(36)	
Not applicable	16 (26)	5 (31)	11 (69)	
Type of marriage				
Monogamy	22 (36)	10 (45)	12 (55)	0.126
Polygamy	23 (38)	16 (70)	7 (30)	
Not applicable	16 (26)	5 (31)	11 (69)	
Duration of marriage in years				
10 or less	13 (21)	6 (46)	7 (54)	0.286
More than 10	32 (53)	20 (63)	12 (37)	
Not applicable	16 (26)	5 (31)	11 (69)	
Number of children				
Less than 5	29 (48)	15 (60)	14 (40)	0.257
5 or more	16 (26)	11 (69)	5 (31)	
Not applicable	16 (26)	5 (31)	11 (69)	
Living arrangement				
Lives alone	15 (25)	9 (29)	6 (20)	0.602
Lives with somebody	46 (75)	22 (71)	24 (80)	
Do you have any other disease?				
Yes	10 (16)	9 (90)	1 (10)	0.013
No	51 (84)	21 (41)	30 (59)	

N = 61 (Total number of people in the study population); N1 = 31 (Total number of probable cases with psychological disorder); N2 = 30 (Total number of none probable cases with psychological disorder); Percentages of n1, n2 in column bracket to the nearest whole number; P value <0.05 is statistically significant
Not applicable = Not currently married

that depressive symptoms may just be mild to moderate.

In assessing risk factors of psychological morbidity by SRQ, subjects with western education had less risk of been classified as probable cases than those without. Having additional physical health burden was also a risk factor. Additional physical and socioeconomic burden from comorbid physical

disease could potentially pressure the blind to psychological maladjustment, especially in the presence of other adverse factors. Age or duration of blindness reported in some studies as important risk factors were not in this study. Those older in terms of age and duration of blindness were thought less likely to be probable cases and at lower risk, because they have had time to adjust by adopting appropriate coping mechanisms. Unemployment was not a risk factor despite the expectation that street begging being the most common work of the blind studied should be a stressor capable of provoking disorder in this population. It is possible that most of those who beg have over a long time adjusted to such an extent that it no longer distresses them. These results are in keeping with the inconsistencies often seen in research works on risk factors for maladjustment, which are many times due to geographical and methodological variations. The small size of our study may also have affected the number of factors identified.

Another aspect of psychological adjustment assessed was the acceptance of disability or denial of its irreversibility. Acceptance of visual loss is reported to be crucial to adjustment to visual loss. In this regard, part of the role of ophthalmologists is to support their totally blind patients in such a way that they avoid false hopes.^[11] Having hope of a cure in the presence of longstanding irreversible blindness, as reported in our study, concurs with the strong religious background in our society, not necessarily indicative of a high degree of psychological adjustment. The fear of children getting blind in the future is another psychological dimension important, in the sense that it shows the profound anxiety that can be provoked in affected parents by this disorder. This may however be positive if it makes parents bring their children for prompt ocular screening.

Maladjustment in blindness could also occur in the domains of marriage and family functioning. Marriage and family living among the blind have often been described as slightly different from the general population.^[27] This is founded on the stigma attached to blindness which potentially can affect relationship formation, particularly with sighted people. Also, studies have reported that blind people marry blind people more often than sighted people.^[27] In our study, majority were married signifying an adjustment to an important societal norm. In addition, choice of partner and marriage contract for majority was by self; it was however not to sighted people but to totally or partially blind; nevertheless, it appeared to have being done with relative ease considering the fact that most practiced

polygamy and had at least five children.

We identified a relatively high degree of social interaction in the two groups despite perceived isolation; most of them lived with their spouses or relatives, only very few lived alone. They were organized enough to take care of their daily needs and had meetings aimed at solving common problems. These were considered positive coping resources that needed be further studied and strengthened. Majority enjoyed support from their family and used family members for domestic activities like cooking, personal hygiene, and for mobility. It is important to note that mobility assistants are also at risk of maladjustment as a result of restriction and less opportunity for self development and the social stigma involved; it is worse if a child is involved as education could be disrupted or stopped.

With regards to the occupational domain, majority begged for a living because they lacked western education or vocational training. Judging by the contemptuous attitude of the public and government, and the observed poor quality of life and living conditions of street beggars. Street begging is a maladaptive strategy which carries social stigma in our society.^[26,36] Those who engage in it are considered environmental nuisances and attempts have been made to take them off the streets for rehabilitation, but this have not worked because of institutional failures and limitations.

However, it was interesting to note that more than half of the blind street beggars earned (≥ 251 naira or equivalent of ≥ 1.5 American dollars per day) above the prevailing national minimum wage per day (250 naira or equivalents of about 1.5 American dollars).^[37] Viewed against the high unemployment rate and the unfriendliness of the labour market to people with disability, the attraction in our country to begging may be a compelling adjustment strategy. But it is debatable considering the abovementioned adverse social disapprovals and its effects on the psychological wellbeing of the blind; its unsatisfactory and inadequate nature as an adjustment strategy is attested to by the fact that virtually all the beggars wanted a change of job.

Blind people need special education which is often not available.^[25,29] Without access to appropriate educational or vocational training, they cannot gain employment. There are limits to which families can support these people, so they take to street begging as a survival strategy. Comparatively, the group of blind in this study with western education and high rate of vocational training were all gainfully employed, none was involved in street begging, affirming the solid role of education in the social

adjustment of the blind.

To further explore the role of education, the two groups were compared as they differed significantly [Table 1]. Education could also be responsible for the difference in vocational training and engagement in formal employment, in which the BA group were better.

The BA group reported better family support, an important factor in psychosocial adjustment;^[16] this could have assisted them with educational development and rehabilitation. SBC could not have harnessed this coping resource because they left their extended families behind, having migrated to the South from Northern part of our country which is less educationally developed. Their coming from this region could have also contributed to the observed educational and rehabilitation disadvantages. It is however important to note that education did not appear to affect marriage and family formation, because the BA group despite their advantage were less likely to be in a marriage or have children, although their younger age may be a contributory factor.

The abovementioned advantages of the BA group probably lessened their risk of psychological maladjustment based on lower SRQ score [Table 1] but not significantly. On the other hand, the advantages the SBC group had in terms of marriage and support by children, longer duration of marriage and blindness reported to aid adjustment,^[15,22] their SRQ score was still quite high.

This complementary relations only further confirms that psychological adjustment is not only complex but results from interplay of several factors; adjustment in one domain may or may not assist another. This may be the result of individuality and diversity of coping methods, behavior, and resources earlier discussed,^[14,17,19] which were not explored in this study.

Our study is limited by its cross-sectional descriptive nature, small sample size, the fact that subjects were not randomised, and the absence of a control group. These limitations will affect its generalization and precludes the attachment of causal role to associated factors identified. However, it could serve as a preliminary investigation for a bigger and better-designed study, and it could still serve as guide to study or help similar blind communities across the country.

Conclusion

The key social challenges of blindness which include

mobility, occupation, and marriage hold serious challenges not only for the blind and family but for society at large. The society has a lot of role to play in providing blind-friendly environment for those who are unfortunately afflicted. This should be reflected in terms of special facilities on the roads, markets, well-founded schools, and rehabilitation centres for the blind.

The blind in this study being organized into distinct communities provides opportunity for community health practitioners to identify their health needs and how they can best be met by their active participation. Adjustment to blindness is a holistic process (physical, social, and psychological), which enables the affected individual to live as normal a life as possible, comparable with people without disability in the community.

The ophthalmologist is expected not to only play a major role in the physical care of the blind but also in their social and psychological adjustment. The psychiatrists' involvement should be early enough to prevent, identify, and manage any psychological problems. Community health practitioners should advocate and evolve well-organized community health services to facilitate social adjustment in this group of people by identifying their special social and health needs and how they can be met.

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