MANAGEMENT OF THE PSYCHOLOGICAL IMPACT OF ACNE VULGARIS- A PRIMARY CARE PERSPECTIVE

De-kaa Niongun L.[1], Akuhwa Randoph T[2], Adefemi Samuel A,[3] Akwaras Nndunno A[1], Daniel David A[1]

[1]Department of Family Medicine, Federal Medical Centre, Makurdi. Benue state. Nigeria
[2]Department of Paediatrics, Federal Medical Centre, Makurdi. Benue state Nigeria
[3]Department of Family Medicine, Federal Medical Centre, Bida. Niger state. Nigeria

Corresponding author

De-kaa Niongun L.
Department of Family Medicine, Federal Medical Centre, Makurdi. Benue state. Nigeria,
email:niongundekaa@gmail.com

ABSTRACT

Treating acne vulgaris can be a frustrating task as most patients desire to have quick relief from the symptoms. Due to the disfiguring nature of the disease, most patients suffer psychological problems. Some patients get worried about their physical appearance and become withdrawn. Some patients seek spiritual healing, and they consider it an affliction or as a curse placed on them by perceived enemies. There is a need to discuss the diagnosis, the management procedure, the expected duration of treatment and the side effects of the drugs with the patients, as this will help patients to cooperate with their care. Thus, treating the physical symptoms may be a solution to the psycho-cutaneous problems associated with skin diseases. We present this case report and review of the literature to highlight both the psychological and physical symptoms of Acne vulgaris and its management. This patient was treated without any need for complex psychiatric or psychological tools.

Keywords: Acne Vulgaris, Comedones, DLQI, Psychosomatic Symptoms, primary care

Introduction

Acne vulgaris is the most common skin disease that can lead to disfigurement and psychological distress. The general outpatient department is usually the first point of contact for patients presenting to the hospital. Acne affects the quality of life and can cause psychological problems.[1]

Most psycho-dermatologic studies of acne are conducted in specialist clinics whereas most acne cases are seen and treated in general practice; acne severity correlates with psychiatric morbidity.[2] Apart from cosmetic problems acne can cause anxiety, depression and other psychological problems that affect sufferers' lives comparable to other disabling and life-threatening diseases. Another study showed that the severity of acne does not necessarily correlate with psychological problems because in some patients even mild to moderate acne causes severe psychological problems like depression and suicidal ideation.[3]The dermatologist should have knowledge of psychotherapy and psychopharmacology which is the combination of the effects of drugs on the mind and skin for proper care.[3]

William, Dellavale and Garner observed that acne was a chronic disease of the pilosebaceous gland resulting from androgen-induced sebum hypersecretion, inflammation, follicular hyper keratinisation and bacterial proliferation and colonisation leading to acne lesions on the face, neck, chest and back. This they found out corresponds to areas rich in sweat glands. They also stated that people's beliefs about other causes of acne vary with ethnicity. Thus, some patients believe that spiritual afflictions are responsible for acne and would seek spiritual healing[4].

Nast AA et al., in their study, observed that Acne vulgaris presents with different morphology. It affects the face in 99% of cases, 60% on the back and 15% on the chest and that presentation ranges from mild comedonal form to severe deep-seated inflammation. They observed that acne could be comedonal, papulopustular and nodular or cystic conglobate.[5] Papadoupos et al. showed that facial and truncal acne have low self-esteem and body image than controls; and that facial acne has lower self-esteem than truncal individuals.[6] This is because the face is usually first

cited and noticed in individuals. Malahlela and Motswaledi reported that the goal of intervention in Acne vulgaris is to relieve the symptoms, prevent complications, clear the existing lesions, prevent the progression of the disease, and improve the quality of life[6]. These were the expectations of the patient. Hazarika and Rajaprabha in their study stated that WHO defined health-related quality of life as an "individual's perception of their position in the context of culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.[7]" Quality of life generally is a term which includes a feeling of joy and satisfaction with life. Since skin diseases affect the well-being, general health, function, and social adaptation of the individual, they can disrupt body image, mental health, and, thus the quality of life.[8]

Lynn et al. observed that topical benzoyl peroxide and topical retinoids used as monotherapy was effective against both inflammatory and non-inflammatory Acne. While topical retinoids have anti-inflammatory properties, benzoyl peroxide acts against propionibacterium acnes, and both drugs are effective for mild-to-moderate acne vulgaris. They stated that moderate-to-severe Acne vulgaris could be treated with a combination of systemic antibiotics (like tetracycline, doxycycline, or minocycline) and topical retinoids and or benzoyl peroxide; their use should however not be more than 12 weeks[9]. This combination reduces the burden of multiple creams, encourages adherence, and improves the quality of life.

Do and Cho., in their study stressed the importance of psychosocial assessment of Acne patients who present for treatment, the need for health workers to be aware of the psychological comorbidity in young people and for the dermatologist to consider basic psychosomatic treatment alongside medical treatment in the management of Acne[10].

It is important for physicians to be aware that the psychosocial aspect of chronic skin disease can be managed by counselling and early and appropriate treatment modalities without the use of complex psychological tools or psychiatric drugs. The magnitude of psychological problems in Acne patients most of the time is overlooked by most practitioners.[10]this is because most practitioners do not consider it a problem.

It's against this background that we present this case and its management from a primary care perspective.

Case report

A 16-year-old boy was brought to the clinic by his father with three years history of recurrent pustular facial rashes that were painful and occasionally itchy. He often squeezed the pustules to expel its contents, but rashes were worsening. At the consultation, he wore a face cap, and his left hand was partly covering the facial lesions on the same side of the cheek to conceal the lesions. He said he was worried about the facial lesions and most of the time avoided social gatherings. He had reduced extracurricular activities as he was ashamed of going out with his friends. He had taken several medications like ampicillin-cloxacillin, erythromycin, amoxicillin-clavulanic acid, chlorpheniramine, azithromycin and tetracycline with no relief of symptoms. He thought medications could not cure his rashes.

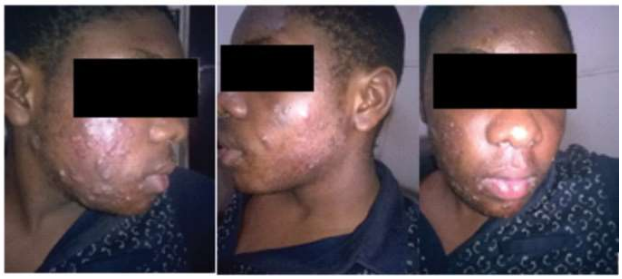
His immediate younger sibling had similar but milder symptoms. Face examination revealed multiple, widespread mixed papules, macules, and confluent pustules on indurated bases, blackhead comedones, and some erythematous backgrounds. These were on the cheeks, chin, forehead, pre-auricular areas, and nose. There was crust on some of the pustular acneiform rashes. There was also tenderness on some of the lesions. There were no associated rashes or similar lesions on other parts of the body.

Based on this history of low self-esteem, social isolation, feeling shy and body image, he was given a Dermatology quality of life index (DLQI) questionnaire (This questionnaire was developed by Finlay and Khan in 1912). He completed it within a few minutes. He had a score of 6 (six) which was interpreted as follows based on the grading:

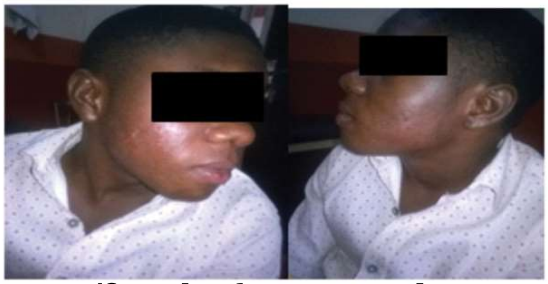
0-1 no effects on quality of life
2-5 small effects on the patient's life
6-10 moderate effects on the patient's life
11-20 very large effects on patient's life
21-30 extremely large effects on patient's life {*Hazarika and Rajaprabha (2016)*}

Therefore, a diagnosis of facial acne vulgaris (moderate-to-severe acne) with psychosomatic symptoms was made. This was explained to him. That acne could be treated with topical and oral drugs; however, it could recur as previously experienced. He was told that acne was common among teenagers, but it was not contagious. He was advised to stop prickling the lesions as they might cause scars on the face and to wash his face with soap and water to reduce the oily nature.

He was placed on oral doxycycline 100mg bid, topical benzoyl peroxide and topical tretinoin creams to be applied daily. He was given a four-week appointment, and the lesions had improved remarkably after the first follow-up visit. After 10 weeks of treatment, lesions and social interaction were good. He was discharged from the clinic and told to return whenever the lesions recurred.



At presentation



10 weeks after presentation

Discussion

Although there are several studies on the pathogenesis and medical treatment of acne, empirical studies on the social and psychological health impact are lacking because it's not considered a life-threatening disease and is thought to be an age-related condition.[6] A study by Simonart observed that the treatment of Acne vulgaris could be frustrating however current treatments include topical retinoids, benzoyl peroxide, topical and systemic antibiotics, azelaic acid, and systemic isotretinoin. He, therefore, suggested the need to review the use of oral antibiotic monotherapy and to avoid the use of topical antibiotic monotherapy; and encouraged the use of new drug formulations like micro sponges, liposomes, Nona-emulsions, aerosols and foams; and new fixed drug combinations like topical retinoids and topical antibiotics or benzoyl peroxide.[11,12] Though a frequent and nonlife-threatening condition with significant psychological impact it requires effective treatment to improve patients skin and self-esteem.[13]

Nguyen and Su noted that the vehicle for use in topical agents depends on the skin type. Therefore, creams are used for dry and sensitive skin, gels or solutions for seborrheic skin while lotions are used for most skin types. They reported that topical retinoids like tazarotene, tretinoin, adapalene and isotretinoin are comedolytic, so they are used as first-line treatment for comedonal and inflammatory acne. They noted the side effects to include dryness, erythema, peeling, and photosensitivity besides being potentially teratogenic. They also noted that benzoyl peroxide and topical antibacterial though effective have side effects like burning sensation, irritation, allergic contact dermatitis, erythema, and dryness. They reported that in multiple trials, topical combination therapies were more effective than topical monotherapy.[11, 14] Oral antibiotics have both antimicrobial and anti-inflammatory effects; they are best used in combination with benzoyl peroxide (BPO) or topical retinoid to prevent resistance.[11]Therefore effective treatment aids adherence and treatment of psychosocial problems associated with the disease.

Thiboutot and Dreno reported that though acne is a

chronic disease with significant emotional, social and psychological effects, correction of misconceptions about its chronicity, aetiology, unrealistic treatment expectations and duration of treatment will help the patient to adhere to treatment. So skilled counselling, educating patients on the disease, considering patients' ideas about the disease and using effective, tolerable treatments will improve adherence to treatment modalities and assist them in dealing with the dermatological problem.[15,16]

Zaenglein, A L. et al reported the use of combination topical drugs (BPO+ Antibiotic or BPO +retinoid) and oral antibiotics for treatment of moderate, severe acne vulgaris as first-line treatment. If the topical combination is not available, the individual component drugs can be used.[17] this was used in the patient.

Langer, Chu, Gouldent and Ambroziak compared the effects of topical retinoids and a combination of topical clindamycin/benzoyl peroxide on acne vulgaris. They found out that combined topical clindamycin + benzoyl peroxide was more efficacious and had early onset of action than topical retinoids alone. The study was a randomised controlled trial with 130 participants randomised into two groups (topical retinoids and topical clindamycin/benzoyl peroxide) of 65 each. The baseline characteristics were the same for the two groups. This study was also to find out if the reduction in the burden of multiple drug use will improve drug adherence and consequently improve treatment. The early onset of action is what makes most acne patients continue the use of the drugs.[18]

Toung, Wang and Amstrong reported that patient education is an important aspect of managing acne vulgaris apart from pharmacotherapy. This has been shown to encourage behavioural change and improve knowledge. In a study of 98 participants randomised into two groups of 49 each (standard-website group and automated-counselling website group) with no significant difference in baseline mean and standard deviation in total acne count between the two groups. After 12 weeks they found out that the automated-counselling website group adopted the treatment more than the standard website group. This study was to emphasise the importance of counselling because the automated-counselling group simulates face-to-face contact between the patient and the practitioner. This study also stressed the importance of counselling above the traditional method of printed materials (which requires patients to read and some of these patients may not be able to read themselves).[19]

Do and Cho, in their study, observed the importance of identifying risk factors for psychological impairment and that some of the psychological problems can be reversed by clinical treatments and psychological assurance.[10] The risk factors in this patient included inappropriate treatment, lack of proper counselling and education on the disease and its treatment modalities in previous medical care.

Ritvo, Del Rosso, Stillman and La Riche reported that the appearance of the skin affects the way people view others and even themselves. They noted that clear, smooth skin is associated with beauty, intelligence and attractiveness while those with skin diseases like acne are more likely to be bullied by their friends or peers, less active socially, lack self-esteem and confidence, and less likely to do well academically and prone to depression.[20] These were some of the problems in this patient.

In their study Gupta et al. observed that though Acne is a chronic relapsing skin disease which affects the quality of life, there is no direct relationship between the severity and the effects on the quality of life. Also using the Cardiff acne disability index, they did not find any significant difference in quality of life between those who had been treated for acne vulgaris and those who had not received any treatment. They stated that acne vulgaris patients see physicians for psychosocial problems like depression, poor body image, anger, frustration, low self-esteem and confidence and social isolation more often than for the cutaneous problem. This study was conducted on 100 participants; they noted that treatment of

psychosocial problems in Acne should be individualised because patients with low DLQI scores may be more affected than those with high scores and vis-vasa.[21]this patient was concerned about the cutaneous lesions which caused the psychosocial problems.

Hazarika and Rajaprabha opined that quality of life is done using the Dermatology life quality index questionnaire, which in a sensitive measure used in research and clinical practice.[7]DQLI was used to determine the extent to which the patient was affected. Health education is one of the domains of quality of life and includes physical and mental health perceptions (like energy level, mood and their correlates- including health risks and conditions, functional status, social support and socioeconomic status).[22]This was a component of counselling given to the patient.

DLQI is a commonly used and reliable tool for measuring the affectation of quality of life in day-to-day clinical practice and clinical trials in patients with chronic skin diseases.[23]

Hazarika and Rajaprabha found out that assurance, counselling, and early institution of treatment are important in mitigating psychological problems and improving the efficacy of treatment in acne patients. Counselling opens a window of opportunity for physicians or primary health caregivers to provide information about the disease, encourage patients' and have follow-up visits.[7] This has the potential to change their perception of the disease.

The fact that acne has a genetic predisposition, and that acne was not a curse, the chronicity and relapsing course and the duration of the treatment may last made the patient appreciate the problem. He was happier to understand the cause, the course of the disease and the need to adhere to treatment.

Rueda reported that generally, adherence to acne treatment is poor due to several factors like an adverse reaction to the drugs, lack of initial improvement to drugs, lack of satisfaction with medication, poor knowledge about acne treatment, poor consultation, and a high score of DLQI. Adherence is germane to achieving success in any acne treatment. Therefore, once-daily topical gel formulations and fixed-dose combinations are more convenient and preferred by patients. This improves adherence. The pump dispenser device is preferred to the tube dispenser for convenience.[24] Most fixed-dose combination therapies are Del Rosso reported that the use of doxycycline for moderate to severe acne vulgaris is better than the other generations of tetracycline because of its affinity for lipids and lower potential for food-drug interaction allowing it to penetrate the lipid-rich pilosebaceous unit. Oral antibiotics are used in combination with topical therapy for the treatment of moderate-to-severe acne.[11, 12,25] This justifies its use in the management of this patient

Reflections and conclusion

Managing this patient like any other patient requires good history taking and making the correct diagnosis. Treating patients with chronic diseases require counselling, education, appropriate medication, and education on expected side effects. This encourages adherence to medication.

Active listening is an important aspect of treatment. It allows the patient time to express himself, and this gives him the feeling that his symptoms are acknowledged and appreciated. It gives him hope and the opportunity to know about the disease, discuss the management procedure and enable him to be part of the management. This enables his relations and caregiver to understand their responsibility in patient care. This changes his perception of the disease.

Acne vulgaris is managed by general practitioners, pharmacists, and other medical personnel before getting needed help. Monotherapy is not as effective as combination therapy. There should be an early and proper referral system to a family physician with a special interest in dermatology or a dermatologist for appropriate treatment.

Recommendation

1. Medical practitioners should constantly update their

knowledge to keep in touch with current and evidence-based practices.

2. Clinicians and health care professionals should educate adolescents on the cause, course, and problems of acne vulgaris and the need for patients to seek early and appropriate treatment.

3. Patients' education using computerised audio-visuals and information improves knowledge, promotes behavioural change, and improves outcomes.

4. There is a need for all Governments and Multinational agencies to increase funding for research. This will assist in the treatment thus preventing the attendant psychosocial and psychiatric sequelae of this disease.

5. Proper guidelines for the holistic management of skin lesions including the psycho-cutaneous aspect should be developed in line with global practice to help in patient care.

6. There is a need for interdisciplinary referral and interaction in patients with psycho-cutaneous problems requiring such. Therefore, psycho-dermatology requires a multidisciplinary approach.

Conflict of interest

There was no conflict of interest in this case report.

Acknowledgement

I wish to acknowledge the patient for allowing the use of his pictures in writing this case.

References

1. Gollnick H P M. &Dreno B. Pathophysiology and management of Acne. J EurAcadDermatolVenereol, 2015; 29(4):1-2.
2. Magin P, Adams J, Heading G, Pond D, Smith W. Psychological sequelae of acne vulgaris:results of qualitative study. Can Fam Physician.2006; 52(8):978-979
3. Niemeier V, Kupfer J, Gieler U. Acne vulgaris-Psychosomatic aspects. Journal of the German Society of Dermatology (JDDG).2006; 4(12):1027-1035
4. Williams HC, Dellavalle RP, Garner S. Acne vulgaris. Lancet. 2012; 379(9831): 361-372.
5. Nast A A, Dreno B, Bettoli V, Degitz K, Erdmann R, Finlay AY et al. European evidence-based (S3) guidelines for treatment of Acne. J EurAcadDermatolVenereol.2012; 26(suppl 1):1-29. https://doi.org/10.1111/j.1468-3083.2011.04374.x
6. Papadopoulos L, Walker C, Aitken D, Bor R. The relationship between body location and psychological morbidity in individuals with acne vulgaris. Psychology, health & medicine.2000; 5 (4): 431-438
7. Hazarika N, Rajaprabha RK. Assessment of life quality index among patient with Acne vulgaris in suburban population. Indian Journal of Dermatology. 2016; 61(2):163-168
8. Ghaderi R, Saadatjoo A, Ghaderi F. Evaluation of Life Quality in Patients with Acne Vulgaris Using Generic and Specific Questionnaire. Dermatology Research and Practice. 2013, ID 108624, 1-6. https://doi.org/10.1155/2013/108624
9. Lynn DD, Umari T, Dunnick C A, Dellavale R P. The epidemiology of Acne vulgaris in adolescence. Adolesc Health Med Ther, 2016; 2016(7):13-25.
10. Do J E, Cho S M, In S I, Lim K Y, Le S, Lee E S. et al. Psychosocial aspect of Acne vulgaris.A community-based study with Korean adolescents. Ann Dermatol. 2009; 21(2):125-129
11. Simonart, T. New approaches to the treatment of Acne vulgaris.Am J ClinDermatol. 2012;13 (6): 357-64.
12. Leung AKC, Barankin B, Lam JM, Leong KF, Hon KL. Dermatology: how to manage acne vulgaris. Drug context.2021; 10:2021-8-6. https://doi.org/10.7573/dic.2021-8-6
13. Stamu-O'Brien C, Jafferany M. Psychodermatology of acne: Psychological aspects and effects of acne vulgaris. Journal of Cosmetic Dermatology. 2021; 20(4);1080-1083
14. Nguyen R, Su J. Treatment of Acne vulgaris. Paediatrics and Child Health. 2011; 21(3):119-125.
15.Thiboutot D, Dreno B, Layton A. Acne counseling to improve outcome. Cutis. 2008; 81(1): 81-6.
16. Manal SA, Sabry MH, Amal EW. Prevalence and psychological impact of acne vulgaris among female secondary school students in Arar city, Saudi Arabia.Electronic Physician. 2018 ;10(8):7224-7229
17. Zaenglein A L, Pathy A L, Schlosser B J, Baldwin H E, Berson D S, Bowe W P et al. Guidelines of care for the management of Acne vulgaris. J Am AcadDermatol. 2015; 74 (5):945-973.
18. Langer A, Chu A, Gouldent V, Ambroziak M. A randomized, single blind comparison of topical clindamycin + benzoyl peroxide and adapalene in the treatment of mild to moderate facial Acne vulgaris. British Journal of Dermatology, 2008; 158(1):122-129.
19. Tuong W, Wang A S, Amstrong A W. Effects of

automated online counseling on clinical outcomes and quality of life among adolescents with Acne vulgaris. A randomized clinical trial.JAMA Dermatol. 2015; 151(9):970-5

20. Ritvo E, Del Rosso J O, Stillman M A, La Riche C. Psychosocial judgements and perception of adolescents with Acne vulgaris: A blinded, controlled comparison of adult and peer evaluations. Biopsychosocial Medicine. 2011;5:11. https://doi.org/10.1186/1751-0759-5-11
21. Gupta A, Yugal K S, Kedar N, Nitin D C, Sumit, J. Quality of life in Acne vulgaris: Relationship to clinical severity and demographic data. Ind Journal DermatolVenerol and Leprosy. 2016; 82(3):292-297.
22. WHOQOL: Measuring quality of life. http://www.who.int/tools/whoqol. Accessed on 21/08/22
23. Basra M L, Salek M S, Camilleri L, Sturkey R, Finlay A Y. Determining the minimal clinically important difference and responsiveness of dermatology life quality index (DLQI): Further data. Dermatology. 2015;230(1):27-33
24. Rueda M J. Acne subject preference for pump over tube for dispensing fixed-dose combination adapalene 0.1%-benzoyl peroxide 2.5% gel. DermatolTher(Heidelb).2014; 4(1): 61-70
25. Del Rosso J Q. Oral doxycycline in the management of acne vulgaris: Current perspective on clinical use and recent findings with a new-double scored small tablet formulation. J ClinAesthetDematol, 2015; 8(5): 19-26