

A systematic review into the psychosocial effects of acne vulgaris on female adolescents



Clare Brown

I have just finished my final year on BSc Critical Approaches to Counselling and Psychotherapy at Edge Hill University. I decided to embark on this course through my passion of wanting to help as many people as possible, including adults and children suffering with mental health issues or adverse experiences. This passion stems from personal experiences within my emerging adulthood years of witnessing the effects mental health issues has upon an individual and their family and friends, and through my own lived experience of skin disease and the psychosocial affects it had upon me. I have never discussed how it had affected me until I started this course when other students would openly share how their skin disease had contributed to them developing mental health issues. This was the driving force behind me wanting to conduct research into the psychosocial effects of acne vulgaris on female adolescents. I am hoping this research will help to educate people within the wider community on acne vulgaris and the effect it has upon females, and to reduce stigma and discrimination within society for our next generation of adolescent females experiencing acne vulgaris.

Abstract

Introduction

Acne vulgaris is a chronic inflammatory skin disease which commonly occurs during adolescence. Although acne vulgaris is not life threatening, the psychosocial impact it can have upon an individual's life can be detrimental - especially on females who are already being affected by internal and external factors during the stage of adolescent development.

Aims

This dissertation will highlight the links between the period of adolescence, experiencing acne vulgaris, and its association to psychosocial mental health issues. It will focus upon the reasons females are more affected than their male counterparts, and it will also give recommendations for future research and support for individuals.

Methods

The author conducted literature research on qualitative research papers from the last 10 years using PubMed, Wiley online library and Sage journals, with the search terms "acne", "adolescence", "quantitative", "impact" "psychological" and "psycho". The search was limited to English language articles, and articles were identified and examined for further relevance to the dissertation.

Results

The results concluded adolescents with acne vulgaris are psychologically and socially affected due to physical, biological and psychological changes during the adolescent stage of development. Stigmatisation and poor self-image also have an impact on how each individual

is affected. Furthermore, females are more likely to experience long term psychosocial mental health issues such as BDD, anxiety disorder and depression.

Conclusion

Through this research it has been concluded that female adolescents with acne vulgaris are more likely to develop psychosocial mental health issues. This is exacerbated by stigmatisation and social factors. It is clear that a lack of education of the skin disease also impacts how individuals are treated and more significantly how they view themselves.

Introduction

The primary outcome for this dissertation is to use a systematic approach to analyse previously published journals on the consequences of adolescent mental health issues, and then to determine specifically how acne vulgaris affects female adolescents. The dissertation will begin with an introduction of the topics that will be evaluated throughout. The first section of the paper will focus on mental health disorders and how this impacts adolescents; the following section will focus on how acne vulgaris affects female adolescents' psychosocial mental health. By the end of the dissertation there will be a clear question and a method for the collection and analysis of the information.

What is adolescent mental health?

Adolescence is a time of change: changes to hormones and body, changes in the social environment, and a time when rapid growth and development take place within the brain (Buckler, 2012). Adolescent health includes changing transitions within multiple areas, including the social, physical, emotional and cognitive (Jetha and Segalowitz, 2012). The accelerated development of these different areas can lead to remarkable growth during this period; this can put adolescents at a higher risk of emerging mental health issues (Allen et al., 2012).

Research into adolescence conducted by Hall (1904), developed a theory known as "storm and stress". This theory was characterized as a stage of human development fuelled by hormones and brain stimulation only. Whereas Boas (1928) argued that adolescence is entirely a matter of social structure and cultural pressures. However, Casey et al. (2010) argue adolescence is influenced by an accumulation of both internal and external influences. Casey

et al, further suggest this period of development also gives higher prevalence to mental health issues.

World Health Organisation (2021) estimate 1 in 7 (14%) of 10- to 19-year-olds experience mental health conditions, with depression, anxiety and behavioural disorders being the leading cause of illness and disability among adolescents. The Mental Health Foundation (2016) believe 70% of adolescents experiencing mental health issues are never diagnosed and Yung et al. (2020) argue the long-term consequences of this prevents the ability to live fulfilling lives as adults, both physically and mentally. Additionally, Moffitt and Caspi (2019) argue, a history of early mental health difficulties is more likely to result in physical health problems and exhibiting accelerated ageing. Thus, it is evident that although there are different theories regarding mental health issues during adolescence, the defining issue lies with the detection of early signs of mental health issues during this rapid period of change within an individual's life. This early intervention may go some way to preventing long term issues into adulthood.

Emotional disorders

During adolescence emotional disorders are prevalent yet are more common among older adolescents (Beirao et al. 2020). Anxiety disorders involving panic or excessive worrying are estimated to affect 4.6% of 15–19-year-olds and 3.6% of 10–14-year-olds (World Health Organisation, 2021). Depression rates are slightly lower at a rate of 2.8% of 15–19-year-olds and 1.1% of 10–14-year-olds (World Health Organization, 2021). Both disorders are believed to affect lives in similar ways with symptoms of mood swings, social withdrawal, loneliness, isolation and the possibility of suicidal behaviour (Hagell, 2012). According to Naicker et al. (2013), repeated episodes of depression during adolescence are associated with abnormal psychosocial and mental functioning in adulthood. Research conducted by Otto et al. (2020) and Copeland et al. (2015) suggests adolescence is associated with depressive disorders and

psychological issues into adulthood. Yaroslavsky et al. (2013) agrees, claiming adolescents with moderate to high symptoms of anxiety and depression showed significantly worse psychological issues by age 30. The Study also demonstrated higher prevalence of issues within females; these findings were confirmed in further studies by Meadows et al. (2006) and Pattern et al. (2014). Steingard (2022) argues the reason for this is due to the maturity of the female emotional stimuli, which makes them more susceptible to mood disorders. This continues into older adolescence with females more likely to develop issues such as self-harm and eating disorders in comparison to their male counterparts who have a larger tendency towards suicidal thinking or substance abuse (King et al. 2020). Yet, none of the above studies have endeavoured to explain the link between mood disorders and adolescence. However, according to Potterton et al. (2022) a narrative synthesis of the studies concluded a link between identity development and social emotional disorders is highly likely, but further specific research is required due to the quality of research available. Alternatively, O'Neill et al. (2021) argue the inability of adolescents to express or understand their emotions contributes to poor mental health during adolescence and emotional distress is triggered by wide ranging social and interpersonal issues.

The identifying factor within all studies suggests education into mental health issues directed towards adolescents is key. Radez et al. (2021) argue stigma, limited mental health knowledge, confidentiality, and financial implications are all preventing adolescents seeking help with mental health issues. Therefore, it could be argued greater awareness of mental health and easier access to mental health advice would help to overcome current barriers.

Behavioural disorder

Behavioural disorders are seen as externalising behaviours such as attention deficit hyperactivity disorder (ADHD), Conduct disorder, Oppositional defiant disorder and Intermittent explosive disturbance and are more prevalent among younger adolescents (Perrotta and Fabiano, 2021). According to Green and Chee (2011), ADHD is a self-control disorder which includes difficulty with attention, concentration, impulse control and activity level that results in the inability to regulate appropriate behaviour or understand passage of time and is known to be more prevalent in males. Conduct disorder is the systematic and persistent violation of the rights to others and social norms. According to Mohan et al. (2022) this condition can result in serious issues with education and social functioning, for example, violence, intimidating behaviour and even sexual abuse towards others including animals. Oppositional defiant disorder (ODD) involves issues with self-control of one's emotions and behaviour resulting in aggression, issues with authority, and destruction of property. Atencio-MacLean (2019) argues this disorder is often linked to families with a history of anti-social behaviour, alcohol and substance abuse, and mental health issues. Finally, according to Coccaro and McCloskey (2019) Intermittent explosive disturbance refers to behavioural aggressiveness which is dangerously overacted and clearly disproportionate to situations. It is believed this behaviour is a result of depressive or personality disorder and not an inability to control oneself.

Figures demonstrate between 3.1% and 3.6% of 10–14-year-olds and 2.4% of 15 -19-year-olds suffer from such disorders which consistently affect educational and employment attainment. A study by Colman et al. (2009) suggests adolescents who demonstrate externalising behaviours are four times more likely to leave school without any qualifications. Further research by Veldman et al. (2015) suggests behavioural problems in adolescence is more

likely to lead to criminal and conduct issues, resulting in financial difficulties in later life (Oerlemans et al. 2020). Additionally, Moffitt and Caspi (2019) argue, persistent antisocial behaviour in adolescence leads to elevated levels of mental health issues, substance dependence, violent crime and violence against woman and children. However, Russell et al. (2015) argue adolescents from disadvantaged socioeconomic backgrounds are just as likely to display these behavioural issues.

Thapar et al. (2012) claim issues such as ADHD are most likely to be caused by genetic disorders. Yet, Cummings (2012) challenges this, suggesting no single gene can determine a behavioural trait. Cohen (2003) argues, the misguided belief that behavioural disorders all develop from one source is naïve: each separate patient must be dealt with according to personal circumstances. There are many different beliefs as to why adolescents develop behavioural issues, therefore it could be argued that further extensive research is needed to clarify the links between adolescence and behavioural disorder.

Eating disorders

Eating disorders are recognised as abnormal eating behaviour and preoccupation with food, accompanied with weight and body shape concerns. It is believed that anorexia nervosa, bulimia nervosa and binge eating disorder (BED) are disabling and impair physical health and psychological functioning (Kirkpatrick, 2022; Robinson, 2009 and Gibson, 2014). Anorexia nervosa involves restriction of energy intake, intense fear of gaining weight, persistent behaviour to interfere with weight gain and disturbance in the way one's body or shape is experienced. There are two types of anorexia sufferers, a restricting type who accomplishes through dieting, fasting and/or excessive exercise, and a binge eating/ purging type who use laxatives, diuretics or enemas alongside self-induced vomiting (Ferri, 2022). Bulimia nervosa

most commonly affects adolescent females, with the practice of binge eating uncontrollably, followed by purging or prolonged absence from food (Legato and Bilezikian, 2004). Yet, unlike anorexia, the persons weight will fluctuate but may not show signs of being under weight (Mott and Lumsden, 2019). Binge eating disorder is a lack of control with substantial amounts of food; objective binge eating is a deliberate attempt to induce weight gain (Wolfe et al. 2009). Yet, according to Goldschmidt et al. (2013), it is often only identified when seeking treatment for other health complications, as with most eating disorders sufferers do not recognise their unhealthy relationship with food.

The psychological symptoms caused by an eating disorder are known to be extreme: depression, agitation, restlessness, chronic insomnia, paranoia, social withdrawal, obsessive-compulsive disorder and hopelessness are all recognised to be part of the condition (Cooperman and Gilbert, 2009). Nolan and Badger (2002) argue the physical and psychological damage from an eating disorder is irreversible due to the reduction in brain size. However, according to a study by Roberto et al. (2012) anorexia patients with long term weight restoration will regenerate brain matter which has been lost over time, yet it is not proven if full brain function will return. Therefore, it could be argued that further research needs to be conducted to assess brain function over a longer period, but due to high rates of relapse in anorexia nervosa sufferers, it may be difficult to obtain reliable data to assess long term cognitive brain function. Eating disorders often emerge during adolescence and carry the highest mortality rate of any mental illness (Evans et al. 2017; Jaffa and McDermott, 2006). According to Van Hoeken and Hoek (2020) adolescents who have been treated as an inpatient for an eating disorder have more than five times increased mortality risk. Still evidence suggests that adolescent treatment for anorexia nervosa has better outcomes than adult recovery, leading to a zero-mortality rate after 10 years' successful treatment (Herpertz-Dahlmann et al., 2001). Research demonstrates

that between the ages of 14-20 symptoms for males will be stable and then begin to decrease, however between ages 14-17 females remain stable then increase significantly between the ages of 17-20. Additionally, depressive symptoms from age 14 upwards contributed towards eating disorder symptoms in females only (Allen et al., 2013). This evidence suggests that eating disorders and symptoms are more prevalent in female adolescents and continue for longer periods than it does for male adolescents. According to Muhlheim and Collins (2018) eating disorders in adolescence are complicated illnesses that do not stem from a single cause but from a complex interaction of biological, psychological and social factors. Conversely, a study by Kings College London (2020) demonstrates association between ADHD, depression and grey matter volume in the brain are linked to the development of eating disorders in adolescence. Yet, according to Walsh et al. (2020) no one has been able to prove scientifically why eating disorders in adolescence develop. This evidence suggests that despite numerous claims surrounding the causes of eating disorders, it is impossible to determine why adolescents particularly females are susceptible to the development. Thus, further research would be beneficial to identify root causes and reduce mortality rates.

Psychosis

Conditions that include symptoms of psychosis usually do not appear until late adolescence (World Health Organisation, 2021). Symptoms can be frightening and challenging, developing into an extreme mental state where hallucinations and delusions can cause a person to lose contact with reality, leading to impaired thinking and emotions (Freudenreich, 2019). The illness most frequently associated with psychosis is schizophrenia; prodromal symptoms will progress to psychotic illness. According to Kring and Johnson (2018), prodromal symptoms will develop in a spectrum; these symptoms include withdrawal, changes in sleep/eating patterns, personal hygiene, loss of energy/motivation, unusual perceptions such as seeing and

hearing things, feelings of grandiosity and changes in personality. Extensive research performed by Bhugra et al. (2022) confirmed anxiety and depression can be experienced for up to 3-5 years before prodromal symptoms present. This research further demonstrates the importance of anxiety and depression in younger adolescents being diagnosed and treated in the initial stages. Yet, Patra (2022) argues it is difficult diagnosing poor mental health in adolescence due to symptoms being like regular adolescent behaviour. A report conducted on behalf of United States Congress into adolescent mental health (1992) claims that unless every student in adolescent age groups is continually monitored for mental health issues, it would be impossible to separate regular adolescent behaviour from mental health issues. Therefore, as argued by Lee and Jureidini (2013), a watchful, waiting approach during adolescence by caregivers is key to early diagnosis and prevention. The importance of this was highlighted in a cohort study conducted by Mensi et al. (2021) into psychosis in adolescence. The research confirmed that if screening for psychotic mental health issues is not performed early, the likelihood of developing full psychosis increases year on year without intervention. Unlike most mental health issues in adolescence, psychosis is more prevalent in males. Research by Ochoa et al. (2020) suggests the illness is usually developed in males at age 18-25, yet females do not usually develop the illness until age 25 plus. However, research by Arendt et al. (2005) and Rubio et al. (2008) suggests this is due to a higher usage of recreational drugs and alcohol by males within this age bracket. Compton and Manseau (2018) and Stankewicz et al. (2022) argue, drugs and alcohol consumption are both contributing factors in the development of psychosis. In contrast, Van Os et al. (2008) and Howes and Murray (2014) argue most cases of psychosis in adolescents involve direct genetic factors and environmental components. Having examined numerous studies upon the causes of psychosis in adolescence, there is not enough evidence to give a definitive answer to the causes of

psychosis within adolescence (Selten et al., 2001; Kempton et al., 2015; Falkenberg et al., 2015; Fusar-Poly et al., 2017 and Radua et al., 2018).

Suicide and self-harm

Suicide is the fourth leading cause of death in adolescents aged 15-19 years and the second cause in ages 10-17 years (World Health Organisation, 2021). According to a study by Current Centres for Disease Control and Prevention (CDC) (2017), during the period of 2007-2015 there was a 92% increase in suicide ideation and attempts recorded by Accident and Emergency departments. Carbone et al. (2019) claim there are higher rates of suicide attempts and self-harm cases during academic term time. According to Lueck (2015) cases during summer months almost half. Therefore, it could be argued that term time brings elevated stress levels resulting in a decline in adolescent mental health, thus a call for increased support would be beneficial during this period.

Risk factors for suicide are complex and include anxiety, sleep problems, violent victimisation, harmful use of drugs, alcohol and sexual abuse (Bilsen, 2018). Yet, anxiety disorders are believed to be the main contributing factor to suicidal behaviour in adolescents. Covert and Fraire (2019) argue social anxiety disorder combined with sleep problems are one of the most dangerous contributing factors in suicide ideation, attempt and death. Furthermore, Cowie et al. (2014) and Alfano et al. (2007) argue sleep deprivation within adolescence is detrimental to mental health. This was evident in a study conducted by McKnight-Eily et al. (2011) using 12000 high school students. The study concluded that unless adolescents obtained a minimum of 8 hours sleep, they are at significant risk of developing anxiety or depression leading to the possibility of suicidal behaviour. The research also suggested insufficient sleep further impacted the ability to deal with stressful situations and increase likeliness of self-harm

behaviours. However, Vaughn (2012) argues oversleeping or hypersomnia during adolescence can be just as detrimental to mental health. Therefore, it is clear to see during the period of adolescence a regulated sleep pattern is vital to prevent mental health issues developing, resulting in the possibility of suicidal behaviour.

Within the last decade the influence social media has had upon rates of self-harm and suicide is significant (Memon et al., 2018). Cyber bullying has been proven to be more dangerous than in person bullying. According to Van Geel et al. (2014) and Shassiakos et al. (2016) this is due to increased opportunity on behalf of the perpetrator and larger audience participation. However, research by Przybylski and Bowes (2017) suggests rates of cyber bullying are still lower than physical bullying. Although Slonje and Smith (2008) argue cyber bullying is more prevalent in female adolescents. This is reflected in a study by Rodway et al. (2022) which revealed 24% of suicide deaths within adolescence were related to online experiences; 67% of these deaths were female. It could be argued that the psychological effects of cyber bullying have more of a significant impact on female mental health and mortality rates over males. Therefore, more education and safeguarding for female adolescents using social media would be beneficial.

Gender gap in adolescent mental health

During adolescence the development of social and emotional habits play a significant part in growth. The most common mental illnesses during this time are generalised anxiety, social phobias and depression (Stein et al., 2001). Research suggests the gender gap in mental health during adolescence finds significantly higher susceptibility within females (Yoon, 2022). According to Campbell et al. (2020), globally, females have lower life satisfaction and higher psychological distress in comparison to males. Yet, whilst there can be variation within social

and cultural backgrounds, females are still at a higher risk of developing mental health issues during adolescence. Additionally, Viner et al. (2015) argues, during adolescence females are more exposed to factors such as sexual exploitation and witnessing violence than males. Therefore, the likeliness of developing mental health issues is increased. Cultural issues also contribute to female mental health issues, within Asian society the rates of suicide and depression are significantly higher in females due to coercive control (Shoib et al., 2022). Within other cultures such as Pakistan and India, the adolescent period can bring many traumatic issues for females such as arranged marriages and genital mutilation. Not only do these experiences bring on mental health issues, but there would also be no access to treatment (Abdalla and Galea, 2019). Within Black communities it was previously believed that mental health issue rates were low, however research suggests this is not true; levels of mental health issues within female adolescents are much higher than previously thought (Brown et al., 2010). Therefore, this evidence suggests that adolescent females from various cultural and social backgrounds are at a higher risk of developing mental health issues due to internal and external factors.

Body image

Within society body image affects many adolescents, at a time when one's own physical appearance is changing rapidly, some adolescents may not recognise their own bodies. A survey published by Mental Health Foundation (2019) revealed one-third of adolescents felt ashamed of their body image. Furthermore, 40% of adolescents have worried about comments made by their peers regarding their bodies; 40% also said images on social media had caused them to feel insecure about their bodies. According to Mahon and Hevey (2021), females indicated social media led them to feel dissatisfied with their body image in comparison to males who can manage their body related image in a positive self-protected way. According to

Tomas-Aragones and Marron (2016), some female adolescents become obsessed with their body image which then affects their emotions, thoughts and behaviours. This can become life-consuming leading to body dysmorphic disorder (BDD). Phillips (2014) argues, individuals with BDD are preoccupied with one or more issues surrounding their appearance. This triggers feelings of depression, anxiety and shame which then leads to compulsive behaviours. Additionally, Jassi and Krebs (2021) argue many people incorrectly judge people suffering with BDD due to a belief that their obsessive behaviours are a result of vanity. Therefore, it could be argued adolescence suffering with BDD are not being supported correctly and more education is needed into the effects this mental illness can have.

The perceived image of a person's own body is determined by social experience and one's body related self-perception. Dogan et al. (2018) argue, in adolescence the perception of body image is primarily shaped by social standards, which leads to elevated levels of unhappiness with one's body and low self-esteem – especially among females. Furthermore, physical appearance is one of the most prevalent predictors of self-esteem during adolescence. According to a study by Gupta et al. (2001), 63.3% of females reported negative body image in comparison to only 21% of males. Therefore, it is apparent that female adolescents are more likely to suffer with low self-esteem due to dissatisfaction with their appearance.

The skin is the largest organ of the body and to many it is the first observable feature which is judged. According to Datta Gupta et al. (2015) people respond positively to those who are attractive and negatively to those who are not. So, it could be argued that some people may view diseased skin as unattractive or that the individual has a visible disability. Diseases of the skin such as psoriasis, acne and vitiligo produce cosmetic disfigurement, and increases an individual's risk of depression, anxiety, BDD, fear of stigmatisation, suicide and self-harm

tendencies (Panconesi and Hautmann, 2003). National health Service England (2022) have recognised the significant link between dermatological issues and psychological issues. In response to this a multi-disciplinary service called Psychodermatology has been formed, where psychological and dermatological services are provided. Therefore, it is evident that the effects of skin disease and the serious mental health implication associated with one are being recognised. However, it is only in the initial stages and unattainable to some due to geographical location, hence more research, education, investment and publicity is key to improving future outcomes.

It is recognised that adolescence is a period when self-image is critical in biopsychosocial development (Sebastian et al., 2008). Health challenges such as skin conditions are common during this stage of development, with acne vulgaris affecting 85% of 12–25-year-olds (British Association of Dermatologists, 2022). There is extensive research into this condition, however the long-term psychosocial impact on the mental health of the individual is less researched within the United Kingdom in comparison to other countries. Furthermore, the correlation between mental health issues and increased susceptibility of females during adolescence is well documented, yet it is not identified which factors contribute the most to this. Therefore, the review conducted throughout this dissertation will use multiple results to guide and develop a review into the psychosocial effects acne vulgaris has upon female adolescents.

Methodology

To gain significant information on the psychosocial effects of acne vulgaris on females during adolescence. A specific technique is essential when collecting evidence and evaluating the information, this can be achieved with a literature search and a literature review.

What is a literature review?

A literature review focuses on critical evaluation and interpretation of previous sources to gain a deeper understanding of a particular topic (Aveyard and Sharp, 2013). A literature review is undertaken with identifying a research question and seeking to answer that question using a systematic approach of searching and analysing relevant literature. A detailed search and analysis of relevant literature will provide added information that will only become relevant when information is compared with each other (Aveyard, 2010). A literature review has several different approaches including systematic review, rapid review, critical review, narrative review, structured review and scoping study review (Arksey and O'Malley, 2005). A systematic review is incredibly detailed, high in quality and are undertaken by a team of researchers aiming to identify all available evidence on a topic. Systematic reviews often include reviews of results obtained in studies; this is referred to as a meta-analysis (Walsh and Downe, 2005). The aim of this dissertation is to analyse multiple qualitative studies to obtain a detailed insight into the psychosocial effects of acne vulgaris upon female adolescents. This will be conducted with the use of previous studies that use interviews and surveys to guide this dissertation to obtain a more detailed understanding on the topic of acne vulgaris and the psychosocial effects it has upon female adolescents.

Why a literature review

The main reason scholars use a literature review is to develop a research idea to consolidate what is already known about a subject. A literature review enables you to identify any knowledge gaps and how your research could contribute to further understanding (Winchester and Salji, 2016). For this dissertation there is a focus upon females, this is due to multiple studies identifying females to be more at risk of developing psychosocial disorders. It is demonstrated that during adolescence psychosocial disorders are more likely to develop during this period of growth and change. Furthermore, adolescence is a significant contributing factor to the development of acne vulgaris. Although there are multiple studies demonstrating the above research outcomes, it is evident there is a gap highlighting the effect a combination of factors will have when experienced at one time. Therefore, the use of previous studies will help to gain an understanding into how female adolescents experiencing acne vulgaris are affected psychologically and socially. The aim of a literature review is to help perform research that may help to implement a change when it comes to public health i.e., female psychosocial health during adolescence and the psychological impact of acne vulgaris on females (Hanney and Gonzalez-Block, 2015). Researching previous studies assists in understanding strengths and limitations that have already taken place; enabling more specific research to take place on a defined topic (Anderson et al. 2009).

Search terms

To gather information on this subject there must be structure within how the information was collected; this can be recognised with the use of search terms. The terms used for this dissertation focus upon “adolescence,” “female,” “acne vulgaris,” “psycho”, ”impact,” “qualitative” and “psychological” as this will gain a strong narrative background into the subject of psychosocial effects of acne vulgaris upon adolescent females.

There were difficulties when searching for specific terms as the word female automatically discounted any literature containing alternative words “girl” and “woman” therefore, the word female was discounted. A second issue which significantly increased the number of results was the exclusion of quantitative and mixed method research. So, the use of the word qualitative was included within the search terms; this effectively reduced the results.

Searching the literature

To gather the information on a particular subject the process was based upon a systematic approach which focuses on gathering past literature which was relevant to the dissertation topic (Grewal et al., 2016). A systematic review enables the researcher to consolidate vital information to help them narrate their own research based upon qualitative and quantitative data (Aveyard, 2010). For this dissertation, the author focused upon adolescent females and their experience of acne vulgaris which may result in development of psychosocial mental health issues. Therefore, the research papers examined will focus upon previous qualitative literature based on adolescents experiencing acne vulgaris and its psychosocial impact. Additionally, as the focus is upon females, relevant papers will be manually reviewed to gain relevant data. Male adolescents will be excluded as any information provided by male participants will be invalid. The process of collecting the literature has been performed over a monthly period using numerous data bases including PubMed, Wiley Online Library, and Sage journals.

PubMed data base contains more than 35 million citations and abstracts from biomedical literature. Although PubMed data base does not contain full text journal articles, it does provide direct links to either the publisher or PubMed central which provides reviewed articles from peer reviewed journals. The website provides an advanced search builder, giving the ability to

perform detailed searches using specific search terms in relation to health and medical journals. Therefore, providing the dissertation author relevant, reliable and credible data to be used as part of the literature review.

Wiley Online Library is one of the largest and most authoritative collections of online journals, books and research resources. The titles cover a full spectrum of life, health and physical sciences, social science and humanities. Therefore, is relevant for the dissertation topic as it provides access to up-to-date medical journals containing peer reviewed articles. The data base provides specific search terms giving the author accurate relevant data to the dissertation topic.

Sage is a global academic publisher of books and journals; the provider is driven by the belief that social and behavioural science has the power to improve society. Sage focuses upon impactful and robust research methodology, publishing over 1000 journals and 600 books globally each year. Sage's advanced search page provides extensive search terms and Boolean operators thus, enabling the author to obtain detailed and accurate data.

Search 1: PubMed.

The first search performed on PubMed data base used search terms acne (title), psychological AND qualitative and excluded any results over a 10-year period. This returned a zero match; therefore, search terms were edited to acne AND psycho (all fields). This provided 4 results; however, the abstract revealed no relevance to the dissertation question. Thus, the search terms were amended to acne AND qualitative (all fields), this resulted in 53 hits. Thus, to reduce the high amount of results the word psychological (all fields) was included to the search terms which provided 7 hits. The results were analysed and 6 were excluded due to not

providing any valid data which was relevant to the dissertation question. Yet, 1 article demonstrated characteristics and variables needed for inclusion criteria. The final search included terms acne AND qualitative AND impact; this produced 13 results. Yet, 12 articles were discounted as when analysed they did not provide any relevant or valid data. Some literature contained mixed method and quantitative data, however, 1 result did contain relevant qualitative and reliable data needed for this literature review.

Search 2: Wiley Online Library.

The next search also discounted any data that exceeded a 10-year period, and as with previous searches all search terms went into the “all fields” Boolean operator. This was due to zero search results when “title” was used as a Boolean search. The search using Wiley data base contained acne AND psychological AND qualitative (all fields), this produced 73 results. Therefore, search term qualitative was removed producing only 5 results. After analysing these results, 4 were excluded due to a lack of reliable qualitative data. Nevertheless, the remaining 1 contained relevant data. The search terms were further adjusted to acne AND Psychosocial (all fields), this again produced 5 results; four were automatically discarded due to not being relevant to the research. Yet, 1 met the criteria needed to be included due to key words within the abstract i.e., acne vulgaris, psychological and adolescence.

Search 3: Sage Journals.

The final search used the advanced search screen using acne AND psychological (all content). Custom range was selected for the age of the search from 2012-2022. This search gave 22 results, so qualitative was added to all content box giving 7 results. These results were analysed which resulted in 5 articles being excluded due to non-relevance to the research project. Still, 2 proved to be acceptable as both studies met the relevant criteria containing key words such

as acne, adolescence, qualitative and psychological. Additionally, both studies were performed in United Kingdom therefore, the use of UK ethical guidelines will be relevant to this research project.

Results

In this next chapter of the dissertation, previous literature which was selected from online journal libraries will be analysed. This will enable the author to identify key themes relevant to the dissertation question.

1) Magin, P., Adams, J., Heading, G., Pond, D., and Smith, W. (2016) Psychological sequelae of acne vulgaris.

A study was conducted by Magin et al. (2016) into the psychological effects acne vulgaris has upon people. The study consisted of 26 participants of 13 males and 13 females, with an age range from 13-52 years. All participants were previous quantitative study participants. Qualitative interviews were semi structured to give participants the opportunity to lead the questions into subjective experiences. During interviews, there was an immediate indication of reduced self-image, self-esteem and feelings of self-consciousness; this was influenced by taunting and stigmatisation, yet signs of depression and anxiety were less obvious. The research also suggests social influence and media played an extensive part in appearance acceptability. Self-image was impaired due to this, resulting in damaged confidence in social circles during teenage years. Similarly, a study by Gallitano and Berson (2018) recognises that taunting, in relation to being unhygienic or unhealthy, was prevalent in individuals with acne, not only in school / college settings but also workplace settings. An individual's diet was another false concept linked with acne vulgaris. This resulted in participants feeling at fault for their skin disease and consequently led participants to overemphasize the use of dietary manipulation, alternative therapies, and excessive washing of the skin. Therefore, it is clear to see that taunting has caused individuals long term psychological issues.

The study recognised mood and anxiety disorders are shown to be influenced by the severity of acne symptoms, yet these disorders are not seen to go beyond the period of exhibiting acne

vulgaris. This contradicts findings within quantitative studies referenced within Magin et al., (2016) study which claims participants with acne vulgaris will experience long term anxiety and depression. However, according to Magin et al. (2016), the long-term psychosocial issues are caused by societal influences based upon appearance, self-esteem issues, social phobia and avoidant personality traits, not anxiety and depression.

2) Sood, S., Jafferany, M., and Vinaya Kumar, S. (2020) Depression, psychiatric comorbidities, and psychosocial implications associated with acne vulgaris.

Sood et al. (2020) set out to increase the awareness of psychosocial implications associated with acne vulgaris. The review was performed using papers in English language from cohort and case control studies. The review recognised the prevalence of acne during adolescence and the significant impact it can have during this physical and psychological stage in development. According to Sood et al. (2020), adolescents have greater difficulty adjusting to the cosmetic issues acne vulgaris can bring i.e., feelings of insecurity and inferiority leading to self-introspection and withdrawal from socialisation. Furthermore, perceived stigma also played a significant factor within social withdrawal, with participants feeling frustrated and embarrassed by family and peers openly discussing their skin condition. Consideration is given to a high percentage of depression and suicidal tendencies within adolescents, yet it is suggested that older adolescents are more at risk. Older adolescent females are at a higher risk of psychosocial mental health issues due to contributing stresses and other psychological disorders such as body dysmorphic disorder. Females are also at risk of developing aggressive acne due to hormonal imbalances caused by polycystic ovarian syndrome and ovarian and adrenal tumours. The review concluded that whilst adolescents are at significant developmental stage, they are at a greater risk of developing mental health issues; this is further aggravated when experiencing acne vulgaris. It was also recognised that a high percentage of adolescents

attending dermatology clinics are also currently being treated for depressive symptoms. Yet, depression and anxiety issues are more prevalent in female adolescents, though male adolescents typically have more severe acne lesions. The review provided detailed analyses of the literature and acknowledged issues surrounding acne vulgaris and its links to psychosocial health issues.

3) McNiven, A. (2019) Disease, illness, affliction? Don't know: Ambivalence and ambiguity in the narratives of young people about having acne.

A qualitative study was performed to explore social and emotional impact of living with acne vulgaris. The study consisted of 25 participants, all of whom were from England with an age range of 13-25 years. They were selected using a sampling matrix to obtain a variation sample. The participants interviewed were formed by gender (18 female, 7 male); ethnicities (16 white British, 4 Chinese, 2 white Greek, 1 white Hungarian, 1 white Dutch; 1 white other); geographic location and study/employment status. Written consent was given for participants under the age of 16 years. Recruitment was conducted through social media, health settings, schools and colleges. Data was collected by interviews in a setting of participant choice. Furthermore, the interviewer was chosen because they themselves were experiencing acne vulgaris and had visible scarring; this was to promote rapport with participants. All interviews were recorded by audio or video depending on participant preference.

Results from the study clearly separated attitudes towards being affected by acne vulgaris, with younger participants not being as affected. Many younger participants referred to having acne as being part of being a teenager, yet female participants were more affected socially. Two younger female participants discussed not wanting to socially interact or make new friendship groups due to suffering from acne vulgaris. Additionally, older participants expressed profound negative impacts such as low self-esteem, body image and confidence, leading to

avoidance or heightened anxiety of social activity because they did not want to be viewed negatively by others. The study demonstrated the impact of acne vulgaris upon female participants was more prevalent, due to pressures about appearance and societal expectations to be deemed attractive. This was highlighted by male participants who believed girls usually have good skin and care about the way they look so when they have acne it stands out more making them feel self-conscious. This evidence demonstrates the recognisable difference acne vulgaris has upon females in comparison to males.

4) Stamu-O'Brien, C., Jafferany, M., Carniciu, S. and Abdelmaksoud, A. (2020)

Psychodermatology of acne: Psychological aspects and effects of acne vulgaris.

A qualitative literature review focusing upon psychological aspects related to acne vulgaris was conducted using search terms *acne vulgaris*, *psychological*, *adolescents*, *anxiety*, *suicide* and *mood disorders*. Results were limited to English language articles. The review provides numerous insights into the overall psychological impact acne vulgaris can have upon adolescents aged between 12-25 years. This included anxiety, social phobia disorder, fear, depression, stigmatisation and suicidal ideation. Mention is also given to the lack of awareness and education into acne vulgaris. This was demonstrated by participants who hold misconceptions regarding the factors which exacerbate their acne vulgaris, for example, using alternative methods such as changes in dietary habits, hygiene rituals and UVA exposure. Advice was therefore given for individuals to seek medical advice regarding their skin disease. The study also discusses the psychological impact of acne vulgaris, particularly females who experienced severe, persistent or late onset acne. This resulted in high rates of suicidal ideation during female adolescent years. Additionally, self-injurious behaviour among females with acne vulgaris was linked to sexual abuse or personality disorders. In consequence, it was

suggested that psychological assessment is important for adolescent females suffering from acne vulgaris to help detect any further mental health issues.

5) Prior, J. and Khadaroo, A. (2015) I sort of balance it out. Living with facial acne in emerging adulthood.

The aim of this study was to obtain first hand experiences of emerging adults aged 18-22 years who are experiencing mild to moderate acne vulgaris. Participants consisted of 6 males and 5 females, 9 of which were White British and 2 Asian British. All participants were students at Kingston University London and were recruited by an internal University email. Data was gathered using semi-structured interviews; each participant defined themselves as suffering from mild to moderate acne vulgaris. The study identified three themes: coping strategies, self-perceptions and interpersonal relationships. The most prevalent coping strategy was avoidance, due to participants actively avoiding social interaction. Mention was given to participants avoiding photographs; they explained that viewing the photograph was a visible reminder of their skin disease. This theme carried on into self-perception, with three participants (2 male, 1 female) mentioning self-comparisons to a happier point in their lives in childhood photographs when they had unblemished skin. Participants further discussed missing work due to feeling embarrassed in front of their colleagues, yet would not miss university as despite being embarrassed, they did not want to ruin their chances of being successful. Additionally, a significant gender difference was acknowledged within the study concerning support from interpersonal relationships. Female participants were particularly uncomfortable discussing their condition with family and friends, yet male participants welcomed open discussion and advice regarding their skin disease. Furthermore, females found it difficult to interact with peers that had flawless skin and felt more comfortable around peers with a similar skin condition. The study also acknowledged that the impact spectrum from one individual to the

next depended upon the individual's coping strategies and personality. It was also documented how suffering from mild acne vulgaris can lead a sufferer to develop severe depression.

6) **Fabbrochina, G., Cacciapuoti, S. and Monfrecola, G. (2018) A Qualitative investigation of the Impact of Acne on health-Related Quality of Life (HROL): Development of a Conceptual Model**

A study into the impact acne vulgaris has on adults and adolescents was conducted using participants from European countries, namely United Kingdom, Italy and Germany. The sample of 50 participants included 34 adolescents and 16 adults, all with a history of and currently suffering with acne vulgaris. A larger sample of adolescents were used to reflect the higher incidence of the condition in younger people and just over 50% of the sample were female. Interviews were conducted via telephone and E-surveys; these methods were chosen to reduce embarrassment on behalf of the individual experiencing acne vulgaris. The study resulted in all but one of the participants reporting a detrimental impact on their emotional wellbeing and self-confidence and this was more prevalent in older participants. A high percentage of participants reported feelings of loneliness and isolation due to a lack of social functioning through fear of being judged because of their visible skin disease. Yet, younger participants did not feel acne was as significant an issue due to their peers also experiencing acne vulgaris. Participant sleep pattern was also a recognisable theme, with half of adult participants and a third of adolescents reporting issues due to the discomfort and anxiety regarding their acne vulgaris. The study confirmed acne vulgaris has an extensive negative impact on psychosocial health.

Summary of the literature

The results collected from the data have concluded that adolescents experiencing acne vulgaris are impacted socially and psychologically during this physical and psychological stage of development. Yet, the literature also demonstrated that female adolescents are more likely to experience mental health issues such as anxiety, depression and body dysmorphic order (BDD), due to biological and psychological development differences between the genders. It was clear throughout the literature that stigmatisation and poor self-image also played a significant role in how participants are affected, not only during infection period but also long term, by social anxiety and negative self-image. The literature highlighted female adolescents were impacted by social media and social expectation to look a certain way, in comparison to male adolescents who were easily dismissive of these factors. Female adolescents experiencing acne vulgaris are therefore more affected psychosocially than males.

Discussion

To create a narrative for this dissertation, the results that have been discussed will be analysed in conjunction with literature found throughout the research development to support the dissertation title. The results used different aspects in association with acne vulgaris and psychosocial health. Those selected for this dissertation will include female adolescence and the psychosocial impact of acne vulgaris. As this dissertation is based upon a systematic review, other studies have assisted this method to develop ideas based upon the literature; this will form a narrative for the next section.

The aim of the discussion is to analyse key themes that have been highlighted within previous studies based upon adolescence, acne vulgaris and psychosocial mental health. These themes will be analysed to gain an insight into why acne vulgaris sufferers, specifically adolescent females, are impacted psychologically and socially and demonstrate reoccurring themes.

Key Theme 1: Mental health issues

In the results, one of the reoccurring key themes associated with adolescents experiencing acne vulgaris was the development of mental health issues. The spectrum of mental health issues ranged from social anxiety, body dysmorphia, clinical depression and suicide. According to Sood et al., (2020), no matter how mild or acute the mental illness, the long-term effects can be detrimental to the individuals life. Similarly, research conducted by Hazarika and Archana (2016) demonstrated the severity of the skin condition experienced is of no significance, it is the impact it has upon the individuals quality of life. Therefore, it could be argued that no matter how mild or severe a skin condition is, or mental health issue experienced, it depends upon the individual how it will affect their life. For example, every person is

different so, our genetics, social experiences and environment will affect our mental health and influence how we feel and respond to situations in diverse ways to others who are experiencing similar afflictions. This was evident in the study by Magin et al., (2016) where some participants stated that acne vulgaris was part of being an adolescent, yet to other participants the effects were particularly acute during adolescence, damaging their psychosocial mental health and development of adult identity.

This theme was identified throughout the analysed literature, however in some studies it was attributed to varied factors. According to Fabbrochina et al., (2018), it was younger adolescents who were less impacted both emotionally and psychologically when experiencing acne vulgaris. An explanation for this was given by McNiven (2019), who concluded that many younger participants were able to dismiss acne vulgaris as being part of adolescence. Therefore, it could be argued younger adolescents would not be as psychologically impacted from their skin disease and male adolescents found it easier to accept suffering with acne vulgaris. An example of this was highlighted within Magin et al. (2016) study where male participants discussed being able to rationalise acne vulgaris as a normal accompaniment to adolescence. For example, one male participant described how he used to think his life “sucked” when suffering from acne yet, on reflection, it was “no big deal.” Therefore, it is evident that a higher percentage of male adolescents are less likely to experience long term psychosocial mental health issues. However, the psychosocial impact of acne vulgaris upon females during adolescence and into adulthood is apparent throughout the literature.

Psychosocial mental health conditions are clearly more prevalent within females experiencing acne vulgaris; these conditions range from anxiety disorders to suicide ideation. According to Meadows et al. (2006) and Sood et al. (2020), females who have acne vulgaris during

adolescence are significantly more likely to experience psychosocial mental health issues. This is due to female tendency to be more psychologically affected by the physical and emotional changes which are occurring during this period (Steingard, 2000). According to Campbell et al., (2021), Psychological distress, life satisfaction, hedonia and eudaemonia all have a significantly higher impact on females than their male counterparts during this time. Consequently, whilst already experiencing an emotionally challenging stage of development, it could be argued that the development of acne vulgaris will augment an already fragile state of mental health for female adolescents and result in psychosocial mental health issues. This was evident within Prior and Khadaroo (2015) study where female participants demonstrated an inability to discuss or take advice regarding their skin disease. Females experiencing acne vulgaris were also unable to mix with peers with unblemished skin due to the effect it had upon their self-esteem, so would actively avoid social interaction. For example, one female participant expressed how her acne made her feel less than acceptable because in society being perfect equals unblemished skin. The participants' subjective experience was demonstrated throughout all the literature, with subjects feeling self-conscious in social situations; believing others would only see their acne vulgaris and not them as a person. Female participants felt they would be judged as unattractive and less worthwhile people. This evidence suggests females with acne vulgaris demonstrate signs of social anxiety disorder (SAD). This disorder is frequently linked to major depression and other mood disorders (Stein et al., 2001).

Key Theme 2: Stigmatisation.

As mentioned throughout the literature stigmatisation has presented itself to be one of the reoccurring themes which significantly affects participants. Stigmatisation involves identifying an individual as being different due to physical differences or through association of others who are judged negatively by society (Hrehorow et al., 2011). The psychosocial effects

stigmatisation has upon adolescents suffering from acne vulgaris has a profound impact upon their quality of life. According to the literature, taunting, misconception, lack of education and self-perception are all causes of stigmatisation. Davern and O'Donnell (2018) argue, stigmatisation of acne sufferers is associated with impaired wellbeing, psychological distress and somatic symptoms. Likewise, Magin et al., (2016) argues psychological consequences of acne vulgaris are exasperated by taunting, stigmatisation and perceptions of being scrutinised and judged by others. The result of this can lead to long lasting psychosocial mental health issues. Furthermore, with in Magin et al., (2016) study, it was demonstrated that stigmatisation can cause permanent effects upon an individual's personality. For example, one male participant described himself as a "hermit," this was due to avoidance behaviour in response to his acne vulgaris, resulting in avoidant personality disorder. According to Lampe and Malhi (2018), avoidant personality is a chronic disorder brought on by feelings of inadequacy and fear of being negatively judged.

Female participants expressed the need for concealment of their skin disease due to taunting. Excessive use of makeup, covering their face with hairstyles and sunglasses were some of the concealment techniques used (Prior and Khadaroo, 2015). Still, many females expressed makeup as being another factor which caused them to be taunted by their peers. Female participants believed that although makeup disguised acne vulgaris to a point, overuse caused their skin condition to flare up, resulting in secluding themselves from any social interaction. According to Fabbrocini et al. (2018), voluntary social seclusion had led to some female participants to lose their jobs, and another had resigned due to taunting about her acne vulgaris from colleagues. From analysing the literature there is a body of evidence that suggests adolescents who are experiencing stigmatisation due to their skin disease may end up developing serious psychological and social issues. Thus, it could be argued that more support

is needed within educational and workplaces with recognition of the impact acne vulgaris has upon sufferers.

Another example of stigmatisation was evident within McNiven (2019) and Stamu-O'Brien et al. (2020) studies. Misconceptions about the causes of acne vulgaris produced stigmatisation over sufferers' personal hygiene, physical health and dietary habits. Comments made to sufferers regarding these factors encouraged mental health issues such as social phobia disorder, eating disorder and excessive hygiene rituals. Other studies have concluded adolescents judge acne vulgaris sufferers negatively, with the belief that they are unhealthy, dirty and unattractive (Ritvo et al., 2011). Alternatively, adolescents with unblemished skin were perceived to be happier, more intelligent and more fun (Murray and Rhodes, 2005). Additionally, discrimination of acne vulgaris sufferers has been rated as one of the worst facial disfigurements (Mojon-Azzi et al., 2008). Therefore, it is clear to see education on the causes and effects of acne vulgaris is vital. This could help reduce stigmatisation towards adolescents and prospectively have a positive effect upon the psychosocial mental health of adolescent acne vulgaris sufferers.

Key Theme 3: Self image

It was recognised throughout the literature that the psychological wellbeing of females with acne vulgaris had a distinct correlation with social perceptions of oneself. Many female participants described social expectations of being female as the main contributing factor to them developing mental health issues (Memon et al., 2018). Self-image and self-esteem were impaired by television and magazines with references being made to the use of digital photography enhancement (Magin et al., 2016). Similarly, Dogan et al. (2018) argue social standards are a significant factor in low self-esteem in female adolescents. Likewise, Sood et

al. (2020) argue females are more psychologically disturbed by skin conditions, in terms of self-efficacy, self-consciousness, locus of control, obsessive compulsiveness' and poor body image. This is due to social pressure on females to conform to a particular body image and in today's demanding society it can augment stress in females (Tomas-Aragones and Marron, 2016). Conversely, within McNiven's (2018) study, socially, male participants are under a lot less scrutiny when suffering with acne vulgaris, with reference being made to it being "normal" for males to have acne. This theme was seen throughout the literature with many males being able to dismiss their skin condition, so, it could be argued male adolescents are not as psychologically or emotionally affected as females.

According to Sood et al. (2020) body dysmorphic disorder (BDD) can play a role in acne vulgaris sufferers' perception of how severe their skin disease is. Likewise, Sarker and Sinha (2022) and Phillips (2014) argue, physical defects which are not observable to others can appear to be extreme to the sufferer; in some cases, psychosocial functioning impairment can also cause the sufferers to imagine acne lesions. In agreement, Malcolm et al., (2021) argue BDD involves a distressing or impairing preoccupation with perceived flaws, and skin was the most common concern associated with females with BDD. This has been exasperated by current trends on social media platforms, digital photo manipulation and high-resolution selfie cameras. According to Phillips et al. (2005), BDD is associated with high lifetime rates of psychiatric hospitalisation (48%), being house bound (31%), and suicide attempts (24%). This psychosocial mental health illness severely impairs a person's quality of life and social functioning. Research performed by Thungana et al. (2018), demonstrates BDD develops during adolescence, and the highest rates of cases are females who present to dermatology clinics with acne vulgaris, alongside symptoms of obsessive-compulsive spectrum disorder, depression, feelings of shame and issues with quality of life. Self-image plays a distinct role

in how individuals with acne vulgaris are psychologically and emotionally affected. Yet, it is evident from the literature female adolescents are at a higher risk of developing psychosocial mental health issues, not only in the short term but also long term (Sebastian, et al., 2008). Therefore, extra support for female adolescents with acne vulgaris is key to help reduce the impact this disease can have on their mental and physical health.

Mental health issues, stigmatisation and self-image all contribute to the impact acne vulgaris can have upon an individual's life. However, the development of this skin disease during adolescence creates a conglomeration of physical and psychological effects which in turn increases the possibility of psychosocial mental health issues. Yet, it is evident from the literature that female adolescents are more prevalent to this than their male adolescent counterparts; this is due to their brain function and hormones (Minguez-Alarcon et al., 2018). Additionally, when experiencing acne vulgaris, female adolescents are vulnerable to stigmatisation because of being at a self-identity stage in their development. However, this has a negative effect on females' self-esteem, leading to social isolation and encourages the development of psychosocial mental health issues such as BDD, social anxiety, depression and suicide.

Strengths

The search strategy and previous literature has provided relevant information based upon the dissertation question. The ability to focus on specific search terms enabled the author to obtain relevant and credible literature to be used to gather information regarding the research question. Another significant strength of the study was the use of qualitative literature. This provided detailed information, which was not restricted to specific questions, enabling detailed insight into the subjective experiences of participants and allowing the research to consider concepts which had not initially been considered. The use of a literature review also gives the author a

deeper understanding of the chosen topic and helps to identify inconsistencies and gaps within the research. The aim of the dissertation was to discover the effects of acne vulgaris upon females during adolescence. Thus, it was important to find information which identified strengths and limitations from existing literature, which was also applicable to this dissertation.

Limitations

As with all research it is important to find the limitations to prevent the limitations from occurring in other future research. One of the limitations found when carrying out the methodology of this dissertation was the limited number of results received when using the search terms. When reducing the search terms this widened the scope of the results found, therefore the results needed to be discounted manually to obtain relevant literature related to the dissertation question. Consequently, this resulted in all the themes associated with the dissertation title not being represented in the results. Further limitations evident throughout the literature consisted of limited sample sizes being used to obtain data. For example, within Prior and Khadaroo (2015) study only 11 participants were used, so this could result in reduced credibility. Additionally, this limitation could also be seen with Magin et al. (2016) study where only 26 participants were used. Furthermore, the geographical location of this study may have also influenced the responses obtained due to selection bias as there would have been non or little randomisation, thus it would not give a true representation of the population. Geographical location also affected the reliability of Fabbrocini et al. (2018) study as small sample sizes were taken from a large geographical location; therefore, this may result in selection bias as participants may come from similar ethnic, social or cultural backgrounds. Another limitation recognised within Sood et al. (2020) study was the high percentage of literature used from international sources. Although these sources were all conducted using English language, they may not be transferable to UK public as cultural and social difference

may cause bias, stigma or gender outcomes. For example, females within certain countries wear facial coverings, therefore acne vulgaris would not be visible to others, so they may not be as affected mentally and socially in comparison to other non-religious countries. Finally, the reliability of the literature may have been influenced by the participants being required to self-report on the severity of their acne vulgaris. Further studies have demonstrated that an individual's own judgment on the severity of their skin condition may be influenced by their own self judgement, and it may not be as severe as stated (Harris et al., 2018 and Bass and Wade, 2019). Therefore, a third-party professional opinion would be beneficial for a second opinion using a recent photograph provided by participants.

Practical implications and Future research

The main aim of this study is to identify how acne vulgaris affects female adolescents. There have been multiple sources that help create the dissertation based upon previous research in association to the psychosocial effects acne vulgaris has upon female adolescents (Prior and Khadaroo., 2014; Fabbrocini et al., 2018; Magin et al., 2016; McNiven., 2018; Sood et al., 2020 and Stamu-O'Brien et al., 2020). A critical analysis of the research papers highlighted three main themes: mental health issues, stigmatisation and self-image. These themes assisted in producing a narrative which helped to support the dissertation question. One of the reoccurring questions which developed throughout the research was, how suffering from acne vulgaris socially impacts female adolescents. There is a body of evidence that suggests this impact is a direct consequence of living in modern day society with social media, digitally enhanced photographs, and unrealistic expectations upon females to look a certain way.

Awareness needs to be raised of the causes and treatment of acne vulgaris, as it is clear from the literature that the public and individuals with acne vulgaris have a limited understanding

of the skin disease. This was demonstrated throughout the literature in the form of stigmatisation, with negative comments made regarding hygiene, diet and general physical health. These factors are presumed to be the cause of the skin disease, causing much distress, and resulted in some individuals not seeking medical intervention. This was evident within studies by Prior and Khadaroo. (2014); Fabbrocini et al. (2018); Magin et al. (2016); McNiven (2018); Sood et al. (2020) and Stamu-O'Brien et al. (2020). Therefore, there needs to be more focus on education as there is a clear gap in knowledge on the subject; this would help raise awareness on the causes of acne vulgaris and treatments available. This awareness will help reduce stigmatisation and suffering which in turn will have a positive effect on an individual's overall physical and mental wellbeing. Studies carried out by Pearl et al. (1998); Al Mashat et al. (2013) and Nizar Machiwala et al. (2019), demonstrated that misconceptions and a gross lack of knowledge of acne vulgaris amongst adolescents contributes to long term suffering and psychosocial mental health issues. It was recommended by all studies that education and easier access to health services would improve the social and psychological consequences of suffering from acne vulgaris.

Conclusion

During adolescence there are many physical and psychological changes happening throughout the body. It is a time when rapid growth and development take place within the brain. Adolescent health includes changing transitions including physical, emotional, cognitive and social. However, the development of these areas can lead to emotional instability which consequently puts adolescents at a higher risk of developing mental health issues. Although there has been much research into adolescent mental health, it could be argued that it needs to be recognised as a public health issue for it to receive more publicity and support.

The aim of the dissertation was to gain a deeper understanding into the psychosocial effects of acne vulgaris on female adolescents. The results clearly demonstrate three occurring themes throughout the analysed literature. Mental health issues such as anxiety disorder, depression and BDD severely impair an individual's ability to cope with the added stress acne vulgaris brings and consequently damages cognitive function, which may be irreversible. Stigmatisation was prevalent due to misconceptions and a lack of knowledge surrounding the skin disease; this resulted in individuals socially excluding themselves and resorting to ineffective hygiene rituals and dietary manipulation. The last reoccurring theme was negative self-image which was exacerbated by social media, digital photo editing and unrealistic social expectations upon females. This had an impact upon female adolescents due to identity exploration and the psychological changes which are being experienced during this stage in development. There is a body of evidence that suggests all these factors combined are a catalyst in the development of psychosocial mental health issues – especially in females. It is therefore recommended that people with acne vulgaris are clinically assessed to avoid the likelihood of developing psychosocial mental health issues, and more education and awareness is needed on the cause and effects of both acne vulgaris and associated mental health

issues. Overall, this would help to reduce social stigmatisation, negative self-image and psychosocial mental health issues for younger generations.

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