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SHOULD AN ALLERGIC REACTION LIKE SOLAR  
URTICARIA BE GIVEN THE SAME RECOGNITION AS  
A TERMINAL DISEASE?

## **Contents**

<b>1. <u>Introduction</u></b>	Page 2
<b>2. <u>What is an allergy</u></b>	Page 3
<b>3. <u>How allergies work</u></b>	Page 3
<b>4. <u>Solar urticaria</u></b>	Page 4
- <b><u>Causes</u></b>	Page 5
- <b><u>Treatments</u></b>	Page 8
- <b><u>Effects on health</u></b>	Page 10
<b>5. <u>Why should awareness of allergies be raised</u></b>	Page 11
- <b><u>Decrease in immunity</u></b>	Page 12
<b>6. <u>Conclusion</u></b>	Page 13

## **Should an allergic reaction like Solar urticaria be given the same recognition as a terminal disease?**

We do not know of the origins of allergies partly due to the fact that the concept was brought forward in 1906 by Viennese paediatrician Clemens Von Pirquet. "*Pirquet called this phenomenon "allergy" from the Ancient Greek words allos meaning "other" and ergon meaning "work"*<sup>1</sup> However allergies have been seen throughout history, the earliest report is that of king Menses of Egypt who was killed by the sting of a wasp between 3640 and 3300 BC. There was also Britannicus who was the son of the Roman emperor Claudius who had an allergy to horses which caused a rash on his eye along with swelling which left him temporarily visionless<sup>2</sup>.

### **1. Introduction**

When we think of allergies what do we think of? Is it hay fever? Eczema? Asthma? These allergies are the common allergies we face in our daily lives whether it is us as individuals suffering or the individuals around us; however there are a larger variety of allergies which are rarer and more life threatening but do not seem to be getting the same recognition as terminal diseases, despite them both being chronic. They have caused and led to the sufferer's quality of life decreasing due to the severity of the allergies symptoms.

In this report the main aim will be to discuss and evaluate whether allergies which are uncommon for example 'Solar urticaria' are given the same recognition as diseases like 'Cancer'. Conversely, before this can be done I shall give an insight and better understanding to allergies as I explore what an allergy is, how allergies work and also gaze at specific key periods of the history of the allergy. Finally I shall conclude whether uncommon diseases such as Solar urticaria have been given the same and if not why they should be given the same acknowledgement as a terminal disease by modern society.

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<sup>1</sup> Sandra Gibson (2010). **Allergies and how did they come about** [ONLINE] Available at (Sandra Gibson: Allergies and how did they come about: Article Source: <http://EzineArticles.com/3962682>). [Last Accessed 25/06/2013].

<sup>2</sup> M. Mahmoudi (2010). **Challenging Cases in Allergy and Immunology journal**. [ONLINE] Available at: (M. Mahmoudi : Challenging Cases in Allergy and Immunology journal : Article Source: <http://err.ersjournals.com/content/19/115/90.full>). [Last Accessed 25/06/2013].

## 2. What is an allergy

An allergy is a harmful response from the body's immune system triggered by an un-harmful stimulus; we call the stimulus 'allergen'<sup>3</sup>. The term 'Allergy' is also known as 'hypersensitivity' as it is an oversensitive reaction to a stimulus. A severe allergic reaction causes anaphylaxis, which can then lead to death<sup>4</sup>. Some individuals may say that allergies are the same as autoimmune diseases however this is not the case because an auto-immune disease involves antibodies against "self-tissues" - the immune system attacks the body whereas allergies involve the use of antibodies against foreign molecules such as pollen<sup>5</sup>.

Allergies in general are very common and according to Allergy UK, one-in-four people in the UK suffers from an allergy at some time in their lives<sup>6</sup>, on the other hand there are some which are very rare for example Aquagenic Urticaria (a rare allergy to water) which is 1 in 20 million<sup>7</sup>. Moreover we also know now after research that in America Spring allergies affect an estimated 25 million according to the American Board of Allergy and Immunology, in addition the most common cause of seasonal allergies is allergic rhinitis (hay fever)<sup>8</sup>. The Symptoms of an allergy is typically: coughing sneezing and/or skin rashes. At times the symptoms may seem the same as the common cold although the difference lies in the duration of the symptoms, as the common cold would last for seven to ten days whereas the allergic reaction such as allergic rhinitis can last for weeks and even months. [1]

## 3. How allergies work

An allergy works by the release of histamine in the body which causes the allergic reaction as the body's immune system reacts to the allergen. Cells which are found on the tissues which are close to the external environment e.g. skin and in the mucous membranes (Mast cells) release chemicals such as leukotriene, histamine and prostaglandins (Histamine can cause your airways to constrict,

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<sup>3</sup> Allergy UK (2012) **What is an Allergy?** Article Source: (<http://www.allergyuk.org/what-is-an-allergy/what-is-an-allergy>) [Last Accessed 27/06/2013]

<sup>4</sup> NHS.uk (2012) **Anaphylaxis** [ONLINE] Article Source: <http://www.nhs.uk/Conditions/Anaphylaxis/Pages/Introduction.aspx> [Last accessed 28/06/2013]

<sup>5</sup> Delisa Fairweather (2007) **Autoimmune Disease: Mechanisms**[PDF] Available at: (Encyclopaedia of Life sciences) Article Source: [http://www.roitt.com/elspdf/Autoimmune\\_Disease\\_Mechanisms.pdf](http://www.roitt.com/elspdf/Autoimmune_Disease_Mechanisms.pdf) [Last Accessed 30/06/2013]

<sup>6</sup> NHS.uk (2012) **Allergies** [ONLINE] Article Source: <http://www.nhs.uk/conditions/Allergies/Pages/Introduction.aspx> [Last Accessed 28/06/2013]

<sup>7</sup> Hanks. M.H, (2011). **Usefully Useless: Everything you'd Never Learn at School**. 1st ed. Great Britain: Square Peg. p.116

<sup>8</sup> Dr Mercola (2013) **How to address Allergies and Asthma symptoms as "Worst Allergy Season Ever " Begins** [ONLINE] Article Source: <http://articles.mercola.com/sites/articles/archive/2013/04/18/allergy-season.aspx> [Last Accessed: 18/06/2013]

like with asthma, or cause blood vessels (capillaries) to become more permeable, leading to fluid leakage or hives. Leukotriene cause overproduction of mucus, which is causes a runny nose or increased phlegm) and these chemicals trigger the symptoms associated with allergies such as sneezing, runny nose, sore throat, hacking cough, itchy eyes, etc [8]

#### 4. Solar urticaria

In this report we will be looking at an infrequent allergy named Solar urticaria which is a type of urticaria. urticaria is a quite common skin allergy which affects 2 in every 10 people<sup>9</sup>, although on the other hand Solar urticaria is a rarer allergy with 3 in every 100,000 having it<sup>10</sup>. It is an allergy to the sun which causes their blood vessels to open and fluid to collect within the skin<sup>11</sup>, according to Doctor Victoria Lewis this produces hives (large, itchy, red bumps) and the skin to be swollen. It is sometimes called Solar urticaria anaphylaxis or Solar anaphylaxis. This allergy should not be mistaken with the solar disease 'Xerodermo Pigmentosa' as that is caused by a recessive genetic disorder which causes irreversible damage to the skin when it is in contact to ultraviolet rays in the sun whereas Solar Urticaria is reversible and the skin returns back to normal after some time without the allergen.

The earliest identification of Solar urticaria was in 1904 by P. Merklen which was 2 years before the concept of allergy though this was because the name, "Solar urticaria" was proposed in the year 1923, consequently they could not name it when it was discovered<sup>12</sup>.

Epidemiology explains to us that Solar urticaria can take place in all races, but a study in America which was monitoring around 280 individuals (135 African Americans,110 Caucasians and 35 other patients from other races) illustrated that Caucasians (all of the populations of Europe, North Africa, the Horn of Africa, Western, Central and South Asia) are more vulnerable to develop the allergy<sup>13</sup>. Moreover studies from various sources have concluded females are also more prone than men therefore we can deduce the treatment would be needed by more females than males which may

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<sup>9</sup> Salford Royal NHS (2013) **Solar urticaria** [PDF] Article Source: <http://www.srft.nhs.uk/EasysiteWeb/getresource.axd?AssetID=3515&type...> [Last Accessed: 2/07/2013]

<sup>10</sup> Clinuvel pharmaceuticals LTD (unknown) **Solar urticaria** [ONLINE] Article Source: <http://www.clinuvel.com/en/skin-science/skin-conditions/rare-skin-conditions/solar-urticaria-su> [Last Accessed: 2/07/2013]

<sup>11</sup> Doctor Victoria Lewis (2011) **Solar urticaria** [ONLINE] Article Source: <http://www.netdoctor.co.uk/diseases/facts/solarurticaria.htm> [Last Accessed: 24/06/2013]

<sup>12</sup> Anil L Tajirian MD (2012) **Solar Urticaria Clinical Presentation** [ONLINE] Article Source: <http://emedicine.medscape.com/article/1050485-overview> [Last Accessed 27/06/2013]

<sup>13</sup> Holly A. Kerr MD & Henry W. MD (2007) **Photodermatoses in African Americans: A retrospective analysis of 135 patients over a 7- year period** [PDF/ONLINE] Article Source: [http://www.jaad.org/article/S0190-9622\(07\)00911-5/abstract](http://www.jaad.org/article/S0190-9622(07)00911-5/abstract) [Last Accessed 1/07/2013]

be a problematic in some countries where females (mainly those younger than the age of forty) and males are not equal such as in Asia and Africa and some parts of Europe <sup>14</sup>[9].

## Causes

White states “Skin disorders are affected by environmental and situational influences” this implies that the usual temperature and weather conditions affect skin disorders such as Solar urticaria as a result if these conditions are exposed to the skin to the extreme, they could have dire consequences on the skin although White further states that “most patients will be aware of the way in which different environment effect there skin” which shows that the individuals who know they suffer from a skin disorder such as Solar urticaria will have the conscious understanding for what is good for their ‘special’ skin. Then again this does not take into consideration the individuals who do not know that they suffer from this allergy hence why under the sun have their skin burnt.<sup>15</sup>

Solar urticaria has no real causes but then again it is not a hereditary disease, it is an allergy which develops unknowingly in the individual until it is diagnosed from the sunburnt symptoms. Doctor Victoria Lewis explains that the biological cause of Solar urticaria describing it as, “a chemical is created in the body that reacts to light, producing an allergic reaction which shows as urticaria” [11]. Although the initial trigger for this condition is unknown, even so there are factors that are thought to increase the susceptibility to developing it. For example taking medications like aspirin may cause hives immediately after consumption or applied to the skin. Also having skin conditions like Cutaneous porphyria (genetic disease which causes high sensitivity to the sun s rays) and systemic Lupus erythematosus (an autoimmune disease which causes similar symptoms to Solar urticaria e.g. inflammation and tissue damage also increase the chances of an individual developing Solar urticaria)<sup>16</sup>.

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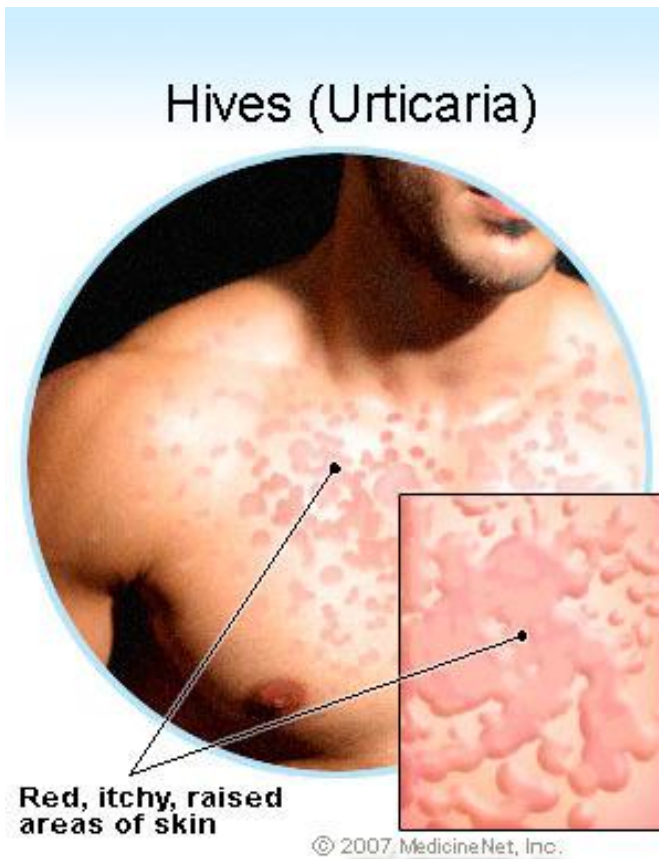
<sup>14</sup> <http://www.clinuvel.com/en/skin-science/skin-conditions/rare-skin-conditions/solar-urticaria-su> [Last Accessed 1/07/2013]

<sup>15</sup> White C.A.W. (2001) **Cognitive behaviour therapy for chronic medical problems** 1<sup>st</sup> ed Great Britain: Wiley p 174

<sup>16</sup> Dr Kinai M.K., (2013). 'Solar Urticaria'. *In*: Anonymous (ed), **Sun Poisoning**. 1st ed. [Internet]: MyBlogBookClub.com. p.11

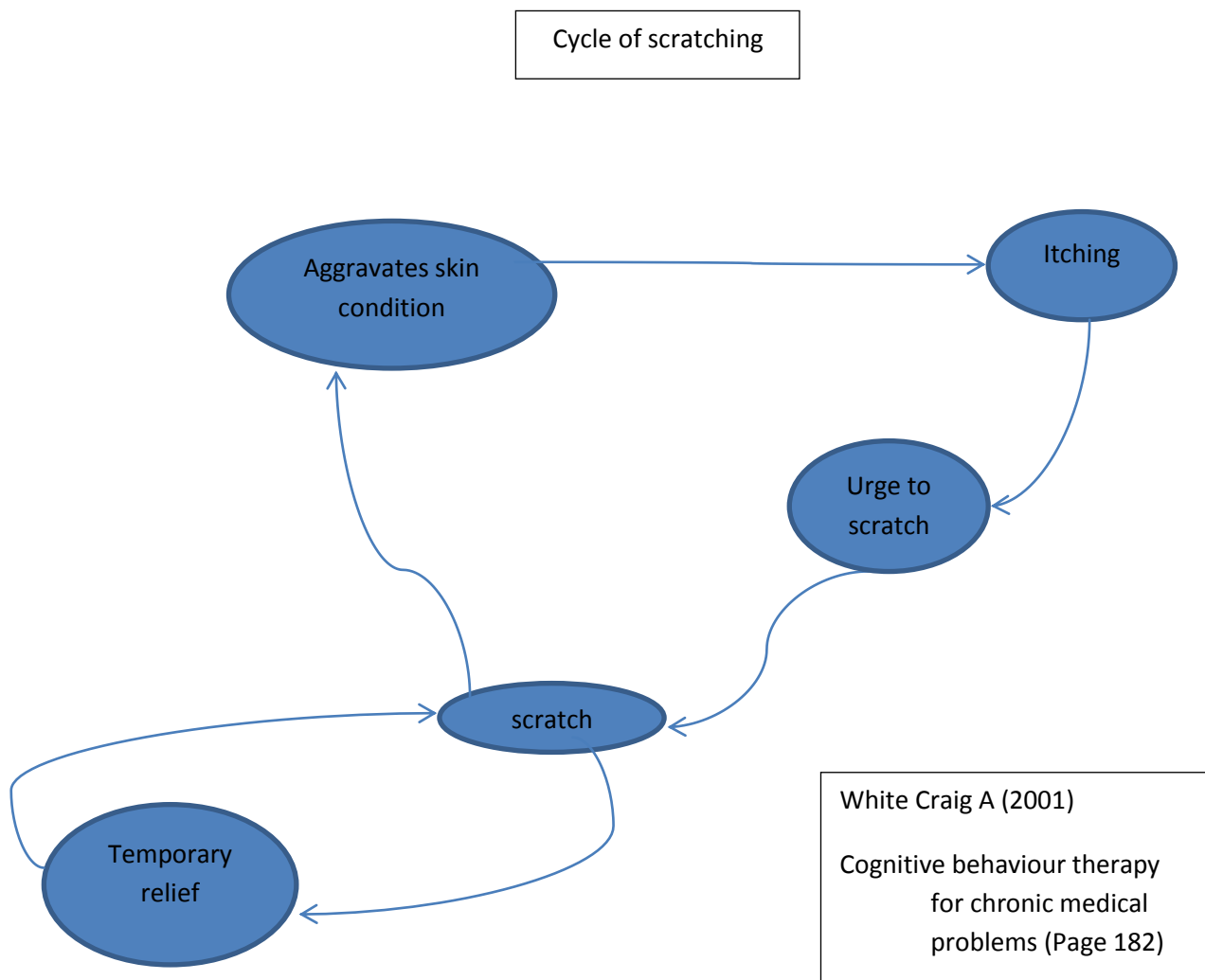


Red blotchy skin



These images above are here to illustrate the how hives looks like and how Solar urticaria causes hive like symptoms when a person is exposed to the sun light, where this could lead to anaphylaxis.

[Online source of Google images]



The bearer of the allergy will suffer from itching, scratching and feel discomfort. This diagram shows the endless cycle of the itch leading to the person scratching where they sense a sign of momentary relief and repeat this cycle, aggravating the sensitive area.



## Treatment

This allergy has no existent cures to eliminate it however there are a number of different treatments. To help treat this urticaria the most common management is for Doctors to prescribe histamine antagonist (more commonly known as antihistamines) to their patients which inhibit the action of histamine therefore reducing the allergic symptoms in particular the fluid collecting in the skin causing redness and soreness. Also topical steroids may be useful in some cases which exhibit anti-inflammatory properties.

Nevertheless the easiest treatments against Solar urticaria is to wear photo protective clothing, wearing sun protection (the sunscreen must be of at least 30 sun protection factor (SPF) which provides protection against UVA and UVB), avoiding the sun during brightest hours e.g. 10am-4pm. Despite the fact that this may not necessarily be a direct treatment it is a way to prevent the symptoms of Solar urticaria. Moreover an individual confers in one interview in a news article that as he became older get older the symptoms reduce and the treatments are more effective.[21]

Furthermore there is also a style of phototherapy named desensitisation phototherapy with psolaren UV light which helps build up the patient's tolerance to sunlight using the UV light as the skin becomes more pigmented and thicker, this class of treatment occurs three to five times a week. Though the outcome may bring results, it bares great risk to the patient as it could trigger anaphylaxis or a life threatening allergic reaction and skin cancer. [16]

Cognitive behaviour therapy (CBT) is used to treat the people with Solar urticaria and other skin disorders as it aids in mental recover and helps relieve the pain and the urge to scratch the damaged skin as well as the anxiety and depression of the illness. This is because the individual's wounds do not appear appealing and this may cause serious depression and leave them feeling dejected. We will discuss these effects in the later parts this report. [15]

All these treatment methods show that there may be substantial methods of treatment being done towards individuals who suffer from Solar urticaria however some of these methods may cost a lot of money, for example it is around one hundred pound per cognitive behaviour therapy session according to the NHS. Be that as it may, if we look at the demographic which this illness effects, the majority are young females of Caucasian decent therefore because a majority of these populations disregard female health as it is not prioritised as they are seen as second level citizens who look after the children and cook and clean. Not only that but the average Gross domestic product (GDP) is lower in comparison to countries in the western world such as America which has a GDP of 14.99 trillion in comparison to China which is part of the Caucasians race which has less than half of 7.318 trillion according to the world bank.

Additionally there are risks against treatments such as desensitisation phototherapy as it can lead towards skin cancer which is more difficult to treat and the side effects of the antihistamines are:

- drowsiness
- impaired thinking
- dry mouth
- dizziness
- constipation
- blurred vision

- an inability to fully empty the bladder (urinary retention)

There are also less common side effects such as:

- insomnia (difficulty sleeping)
- nightmares
- hallucinations (seeing or hearing things that aren't real)
- itchy skin

Yet there are also rare effects which include:

- rapid heartbeat
- chest tightness

Simultaneously topical steroids likewise have adverse effects which include:

- Burning or stinging of the skin – this is a common side effect that usually occurs when you start treatment; it improves as your skin gets used to the medication
- Worsening of a pre-existing skin infection
- Thinning of the skin – this can make the affected skin more vulnerable to damage; for example, you may bruise more easily than normal
- Acne, or worsening of existing acne
- Rosacea – a condition that causes the face to become red and flushed
- Changes in skin colour – this is usually more noticeable in people with black or brown skin
- Excessive hair growth on the area of skin being treated
- Contact dermatitis – some people find they have a mild allergic reaction to the substances in a particular topical corticosteroid, which results in skin irritation
- Stretch marks – these are narrow, streak-like lines that can develop on the surface of the skin

Majority of these unwanted effects should cease after the treatment. Although some such as stretch marks will be permanent though they will be less noticeable after treatment has stopped. Henceforth, although there may be more treatment, there is still substantial amount of research needed to be done to reduce the pitfalls of the medications and this can only truly be done if awareness is raised of such an allergy. Although the only 100% method to prevent the reaction from occurring is prevention e.g. covering up and cream which is somewhat cliché yet is the best treatment for an allergy of this calibre.

## **Effects on health**

Health is a state of physical, social and mental wellbeing; we have discussed the physical impacts on the person who has the Solar urticaria thus let us explore the mental and social implications of having such a dreadful and erratic skin disorder.

From a psychological point of view skin allergies such as Solar urticaria cause much grief to the individuals. Due to their skin allergy they are put in positions where they are vulnerable to be stigmatised. Not only this, but younger sufferers may be more prone to bullying due to their skin conditions. As a result of their allergy they face real social problems.<sup>17</sup>

Although Cognitive behaviour therapy approaches dermatology in a way which emphasises how the bearer of the Solar urticaria should have an understanding of the importance of the emotional and behavioural responses to the illness, there is no mention in the various treatments I have observed, that the therapy or anyone have thought of approaching people who do not have it, educating them about it. This is because the more they know about it the better their understanding and the greater the acceptance of the rare allergy and also appreciation for their own personal wellbeing.<sup>18</sup>

The bullying is caused due to the lack of understanding of the bully and this series of events which are originally instigated due to the lack of awareness of the general public about concerning allergies such as Solar urticaria. It has produced a fear and apprehensiveness among family members and friends; if one of their loved ones has these sorts of illnesses. A prime and distressing example is of the three year old boy Landan Cotton who lives in North Georgia in America, who suffers from Solar urticaria. He is unable to wear shorts or long sleeved shirts and because of this and his illness his grandmother worries that he may be subjected to bullying and teasing because of his dissimilarities with the other children of his age. He is forced to be withheld indoors and must feel confined within the walls of his home for much of the day in order to protect him from the sun.<sup>19</sup>

He must have felt imprisoned from a young age, isolated from the other children from the other children and this isolation can lead to depression. If this occurs this will add on to the costs of the health services such as the NHS because not only will they have to deal with his illness but also his psychological health. Does this not question whether enough is being done to raise awareness of such disorders. The lack of friendship in this case could cause Landan to live a life of solitude and his development as a child to be distorted to what it could have been if he did not have Solar urticaria. Not only will this create loneliness but potentially affect his probability of gaining jobs as his social skills will not be as developed and he may not be social or feel part of society hence this will reduce his quality of life due to his gloom and also he will not feel wanted but neglected by society.

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<sup>17</sup> White C.A.W. (2001) **Cognitive behaviour therapy for chronic medical problems** 1<sup>st</sup> ed Great Britain: Wiley p 175

<sup>18</sup> White C.A.W. (2001) **Cognitive behaviour therapy for chronic medical problems** 1<sup>st</sup> ed Great Britain: Wiley p 185

<sup>19</sup> Clint Cooper (2012) **North Georgia 3 year old allergic to the sun** [ONLINE] Article source : <http://timesfreepress.com/news/2012/may/31/31e-seeing-red-sunlight-allergy-chattanooga/?print> [Last Accessed 5/07/2013]

The media does not help as well as they do not report them as often as they should in comparison to terminal diseases such as cancer and cancer care; although this may be primarily due to the frequency of the number of cases nonetheless there should be some coverage. For the BBC the last recorded online article about any solar allergy was back in 2002 which was more than a decade ago concerning about the 5 year old boy Glen Henry.<sup>20</sup>

On the other hand it is not only children which are scorned because of Solar urticaria even National Olympic athlete " Ben Ainsle " also suffers from Solar urticaria and he sails on his yacht. Being outside is essential for him to improve in his field of work and he says his skin problem is his greatest weakness yet even though he has torn ligaments and has taken far greater physical damage, Solar urticaria is a far greater hindrance for him. In spite of being adult it did not prevent him from being subjected to verbally abused by fellow 'friends' being mocked and called 'rudolph' due to his sun burnt nose.<sup>21</sup>

## **5. Why should awareness allergies be raised?**

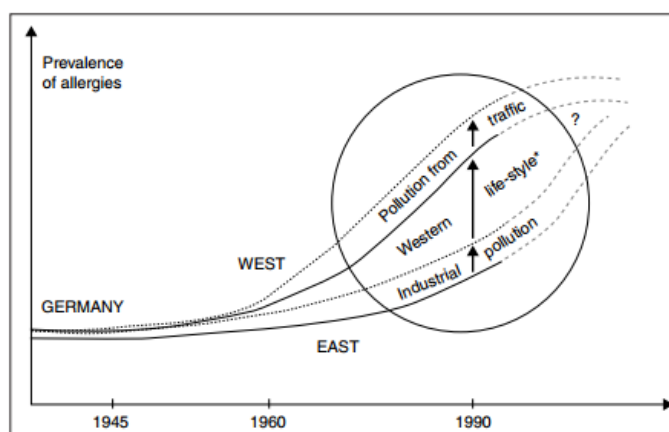
Allergies have always been present throughout time as mentioned earlier in this report however their prevalence over the last century has increased. This may have been primarily due to industrialisation in the 1800's. This has caused an increase in number of allergies although there is no definitive answer as to why but similarly just like the link between smoking and Coronary Heart Disease (CHD) wherein although Coronary Heart Disease (CHD) is a multifactorial disease, evidence suggests that smoking has a large impact on it and that there is a pattern between the two. Similarly the awareness of allergies has increased since the beginning of the 20<sup>th</sup> century not long after the early stages of the industrial revolution hence there is a correlation between them both because they were discovered in early 20<sup>th</sup> century and have been increasing since they were truly recognised. Though the definitive reason why an increase occurred is not presently known however there are a number of hypotheses such as: *Environmental pollution, Allergen exposure and a decreased stimulation of the immune system* which are but a few of the numerous reasons. Since there are so many different factors and each effect a country differently we will be limited to only explore the three main ones which intertwine with each other in Germany which is a country with abundant research material which is accurate on the reasons behind the increase, and will be the country I shall speak about in specific (unless stated otherwise).

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<sup>20</sup> BBC News (2002) **Child treated for rare sun allergy** : Article Source: <http://news.bbc.co.uk/1/hi/wales/2188754.stm> [Last Accessed: 2/07/2013]

<sup>21</sup> Lucy Elkins (2010) **Are you allergic to the sun? For one in six of us, blazing skies are VERY bad news...** Article Source: <http://www.dailymail.co.uk/health/article-1294166/Are-allergic-sun-For-blazing-skies-VERY-bad-news-.html> [Last Accessed 5/07/2013]

Prevalence of allergies in East and West Germany plotted against year of birth. Solid lines indicate no additional pollutant exposure; dotted lines indicate additional pollutant exposure. The circle indicates the years with the most dramatic increase. Adapted, with permission, from [15].



[24]

This graph above shows the trend that as the years increase the rate of allergies increases in Germany and that the major player in this is traffic pollution are cars, Lorries and trucks transporting people and goods because around the time of the increase car sales were also increasing. However there is a steep increase at the 1950's for the West Germany and this is presumably caused by the introduction of the jet plane in in 1947 in Germany.<sup>22</sup> Although in other parts of the world such as in California, America the pollution during the mid-20<sup>th</sup> century they had to create 17 air pollution agencies and take action against pollution.<sup>23</sup>

The graph also shows how the urbanised West has more pollution than the more rural east, not only this but also that there are more allergies in the City rather than the countryside. This partially due to the allergen exposure as in the farm, the individuals are exposed to many more harmful substances so their immune system is more active, whereas in City where they are not surrounded by wild animals which carry their countless infections. In addition other reasons it increased was that globalisation had caused the deportation of food, so more exotic foods and spices are eaten in non - tropical areas and the bodies are not accustomed to these so there are adverse effects in some cases<sup>24</sup>. An increase in pollution has enabled more allergens to develop and spread in the air so there will be more allergic reactions.

### Decrease in immunity

Around the 1950s, 60s and 70s the world saw the evolution in medicine especially for vaccines where there was the introduction to many of the successful vaccines such as Polio in 1954, not only that but the eradication of Small pox in such countries such as Somalia<sup>25</sup>. Some doctors state that

<sup>22</sup> Wikipedia (2007) **Airplanes** [Online] Article Source: <http://en.wikipedia.org/wiki/Airplane>[Last Accessed]

<sup>23</sup> (2011) [PDF] Article Source: <http://www.atmos.washington.edu/academics/classes/2011Q1/212/Week6-7LectureNotes.pdf>

<sup>24</sup> Johannes Ring\*, Ursula Krämer†, Torsten Schäfer\* and Heidrun Behrendt (2001) **Why are allergies increasing** [PDF] Article Source: [http://www.unb.br/posgraduacao/stricto\\_sensu/Artigos%20prova%20escrita%20editado%20Sa%C3%BAde%20Animal/Ring%20et%20al.%202001.pdf](http://www.unb.br/posgraduacao/stricto_sensu/Artigos%20prova%20escrita%20editado%20Sa%C3%BAde%20Animal/Ring%20et%20al.%202001.pdf) [Last Accessed 5/07/2013]

the immune system is no longer 'trained' in the western world. Due to more vaccines the natural immunity of humans had not been increasing at the same rate as before this development among vaccines. Hence there is an increase in the number of cases of allergy as the body is not as used to using its immune system as much. There is no strong evidence in the link but it may be one of many factors which is to why allergies are becoming more and more common. Therefore it is imperative that some allergies are given higher recognition because this will become problematic if it continues to escalate because once given higher recognition their research will gain more funding and information on how to tackle them and prevent the increase of allergies as they can occur spontaneously and also depart randomly during someone's lifetime unlike most diseases which arise and do not leave until they are cured. [24]

## **6. Conclusion – Why should allergies be recognised? Why?**

Since 1990 the hospital admissions for food allergies has increased by 500% although this is still just a minute proportion as it was only of casualties who were administered to hospital and treated there, it does not truly reflect the severity of the problem but just highlights how we cannot even fathom its magnitude <sup>26</sup>[27]. The consequences of such an epidemic spread of allergies are clear evidence that sufficient recognition and battling of allergies is not occurring in the medical domain.

If not brought to the public eye through the media and government, such a problem will cause allergies such as hay fever to become more severe, even more common and unmanageable, through pharmaceutical medication. "They're the tip of the iceberg," says head of the allergy research team at the institute of food research in Norwich.<sup>27</sup> Stating how we are at the brink of danger and that we are at a medical crossroad point where action is vital to reverse and amend the affects sustained and prevent anymore adverse effects from occurring.

On the other hand this is not to say that nothing is being done in the least but merely stating that the developments are not taking place at the rate they should be due to the increase in cases of allergies and also the increase in the frequency of rare allergies. Moreover due to the devastating effects these rare allergies such as Solar urticaria, if medicine does not progress from its current level it will cause dire consequences on the economy and not only the individuals quality of life. Hence by raising awareness of the allergies such as Solar urticaria it will help organisations who employ people who put in place specific plans in order to protect the individuals from their allergy and tailor things to their requirements therefore preventing the number of cases admitted to hospital while still allowing bares of allergies to work.

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<sup>25</sup> Alexandra Minna Stern and Howard Markel (2005) **The History Of Vaccines And Immunization: Familiar Patterns, New Challenges** Article Source: <http://content.healthaffairs.org/content/24/3/611.full> [Last Viewed:4/07/2013]

<sup>26</sup> Gupta R, Sheikh A, Strachan DP, Anderson HR (2006) Time trends in allergic disorders in the UK. *Thorax*, published online. doi: 10.1136/thx.2004.038844.

<sup>27</sup> Caroline Hadley (2006) **Food allergies on the rise? Determining the prevalence of food allergies, and how quickly it is increasing, is the first step in tackling the problem** Article source: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1679775/> [Last Viewed: 8/07/2013]

The major reason I believe allergies should be given more recognition is due to the chain of events which will occur if nothing is done currently. The consequences could become hazardous for the global population, there could be an increase in allergens in the air and new more diverse allergies may occur due to the lack of immunity previously discussed in the report. This may mean that in the most severe cases that a person may be critically ill if dust is present within their parameters.

However raising awareness to such allergies may and is not possible in all countries partly because some countries suffer from a different range of allergies from another and because not all countries are as developed as each other. But considering MEDC's I believe that it is vital for the current economic climate that more is done, this is because the less people suffering from severe allergic reactions the more of them which are working and are productive to their country and the economy and hence increasing their countries GDP, whereas if they are ill they are an expense to the health care systems especially in the case of the UK with NHS which run on the taxes and provide free health care, thus if less people are working this means they are provided with less money from the government so may not earn enough and less health care is given due to the cuts NHS get as they may not be getting enough income to support some specific health projects. Also if they had dealt with the problem to begin with they would not have needed to treat the casualties. If they had they regulated the obvious statistics from its early signs using models which would show a sharp increase in allergies, it would be easier to identify the correlation.

Not only must awareness be raised but the government and other leading organisations need to create a plan of action which considers pollution. Even though some is being done with Global leaders, when they gather for their G8 meetings, the trend is still carrying on which emphasises that the current measures are not effective enough.

Recognition should be raised because although sufferers of diseases such as HIV may die, the people who suffer from this allergy will suffer chronically but will live a life of pain and suffering due to their allergies as they are far less likely to pass away and if it is not as severe as Solar urticaria it will still provide some plaguing feeling where the individual will constantly have a daunting feeling in the back of their minds about the allergy. As a result it could be argued that some allergies are more punishing than terminal diseases as they are difficult to endure while also being chronic.

They affect individuals physically mentally and socially and make individuals believe they are stigmatised by society which diminishes their quality of life is and they will not be able to live a 'normal' life and for younger sufferers this will affect their childhood development which could cause serious psychological problems due to bullying at a young age similar to the one observed about Landan Cotton, leading the child too feel distressed and unconfident about their own skin.

So the question lies whether an allergic reaction like Solar urticaria be given the same recognition as a terminal disease? The answer to this enquiry is certainly yes society should have a better understanding of rare allergies such as Solar urticaria but also should give more recognition to more common allergies as allergies in general are on the rise , I also think so due to the other explanations given and also their consequences. If it does occur however this does not mean they are given priority over terminal diseases but that they are given a greater assessment and forethought when being dealt with, while greater consideration by society is given. The reason that is because I do not believe an insight to the dilemma was illustrated to this generation and future generations are facing.

## EPQ bibliography

Author	Description	URL	Usefulness	Reliability
NHS	Side effects of topical steroids	<a href="http://www.nhs.uk/Conditions/Corticosteroid-preparations-(topical)/Pages/Side-effects.aspx">http://www.nhs.uk/Conditions/Corticosteroid-preparations-(topical)/Pages/Side-effects.aspx</a>	Helped me created list side effects	Fairly reliable made by trusted source
	CBT information page	<a href="http://www.nhs.uk/Conditions/Cognitive-behavioural-therapy/Pages/What-is-it-used-for.aspx">http://www.nhs.uk/Conditions/Cognitive-behavioural-therapy/Pages/What-is-it-used-for.aspx</a>	Helped me gain better understanding of CBT	Fairly reliable made by trusted source
	Allergies	<a href="http://www.nhs.uk/conditions/Allergies/Pages/Introduction.aspx">http://www.nhs.uk/conditions/Allergies/Pages/Introduction.aspx</a>	Helped me understand the medical knowledge about allergies and taught me the basics the general public would access.	Fairly reliable made by trusted source
Science direct	Brief insight to why allergies are increasing	<a href="http://www.sciencedirect.com/science/article/pii/S0952791501002825">http://www.sciencedirect.com/science/article/pii/S0952791501002825</a>	Helped me begin to think about the factors which affect rate of allergies in world	Fairly reliable
U.S department of health and human services	A bank of rare diseases	<a href="http://rarediseases.info.nih.gov/">http://rarediseases.info.nih.gov/</a>	Not really useful as I did not use it apart from once to state a point in my writing	Reliable due to having gov in the web address
Anglia Ruskin university	Harvard referencing system	<a href="http://libweb.anglia.ac.uk/referencing/harvard.htm">http://libweb.anglia.ac.uk/referencing/harvard.htm</a>	Very useful initially as it helped me understand how use the Harvard referencing system	Very reliable as it showed me how to reference correctly and if I compared my references they were of a similar format
Wikipedia	Brief overview of Topical Steroids	<a href="http://en.wikipedia.org/wiki/Topical_steroid">http://en.wikipedia.org/wiki/Topical_steroid</a>	Very useful in helping learn the basics behind the treatment	Fairly reliable as the footnotes had good credentials however it was unreliable In some ways due to being in Wikipedia
	Brief overview of CBT	<a href="https://en.wikipedia.org/wiki/Cognitive_behavioral_therapy">https://en.wikipedia.org/wiki/Cognitive_behavioral_therapy</a>	Very useful in helping learn the basics behind the treatment	Fairly reliable as the footnotes had good credentials however it was unreliable In some ways due to being in Wikipedia
	Brief overview of Porphyria	<a href="https://en.wikipedia.org/wiki/Porphyria">https://en.wikipedia.org/wiki/Porphyria</a>	Very useful in helping learn the basics	Fairly reliable as the footnotes had good credentials however



				it was unreliable In some ways due to being in Wikipedia
	<b>Brief overview of what the Caucasian race are</b>	<a href="http://en.wikipedia.org/wiki/Caucasian_race">http://en.wikipedia.org/wiki/Caucasian_race</a>	Very useful in helping learn what the Caucasian race are	Fairly reliable as the footnotes had good credentials however it was unreliable In some ways due to being in Wikipedia
	<b>Brief overview of What systemic lupus erythematosus</b>	<a href="http://en.wikipedia.org/wiki/Systemic_lupus_erythematosus">http://en.wikipedia.org/wiki/Systemic_lupus_erythematosus</a>	Very useful in helping learn the basics of the illness	Fairly reliable as the footnotes had good credentials however it was unreliable In some ways due to being in Wikipedia
	<b>Brief overview of where the Caucasians are in the world</b>	<a href="http://en.wikipedia.org/wiki/File:Stoddard_race_map_1920.jpg">http://en.wikipedia.org/wiki/File:Stoddard_race_map_1920.jpg</a>	Very useful in helping learn the basics	Fairly reliable as the footnotes had good credentials however it was unreliable In some ways due to being in Wikipedia
	<b>Brief overview of What the disease xeroderma pigmentosum is</b>	<a href="http://en.wikipedia.org/wiki/Xeroderma_pigmentosum">http://en.wikipedia.org/wiki/Xeroderma_pigmentosum</a>	Very useful in helping learn what the disease is and also how to differentiate its symptoms	Fairly reliable as the footnotes had good credentials however it was unreliable In some ways due to being in Wikipedia
	<b>Brief overview of what anaphylaxis is</b>	<a href="https://en.wikipedia.org/wiki/Anaphylaxis">https://en.wikipedia.org/wiki/Anaphylaxis</a>	Very useful in helping learn the basics	Fairly reliable as the footnotes had good credentials however it was unreliable In some ways due to being in Wikipedia
	<b>Brief overview of What Atopy is</b>	<a href="http://en.wikipedia.org/wiki/Atopy">http://en.wikipedia.org/wiki/Atopy</a>	Very useful in helping learn the basics	Fairly reliable as the footnotes had good credentials however it was unreliable In some ways due to being in Wikipedia
	<b>Brief overview of The history of airoplanes</b>	<a href="http://en.wikipedia.org/wiki/Airplane">http://en.wikipedia.org/wiki/Airplane</a>	Very useful in helping learn the history of airoplanes during the 20 <sup>th</sup> century	Fairly reliable as the footnotes had good credentials however it was unreliable In some ways due to being in Wikipedia
	<b>Brief overview of Vaccine history</b>	<a href="https://en.wikipedia.org/wiki/Vaccine">https://en.wikipedia.org/wiki/Vaccine</a>	Very useful in helping learn a brief glimpse the history of vaccinations	Fairly reliable as the footnotes had good credentials however it was unreliable In some ways due to

				being in Wikipedia
	<b>Brief overview of What Aquagenic urticaria is</b>	<a href="http://en.wikipedia.org/wiki/Aquagenic_urticaria">http://en.wikipedia.org/wiki/Aquagenic_urticaria</a>	Very useful in helping get a rough idea of the fundamentals of the allergy and how it works	Fairly reliable as the footnotes had good credentials however it was unreliable in some ways due to being in Wikipedia
<b><u>Schäfer T, Ring J.</u></b>	<b>Epidomology of allergic diseases</b>	<a href="http://www.ncbi.nlm.nih.gov/pubmed/9208054">http://www.ncbi.nlm.nih.gov/pubmed/9208054</a>	An abstract which I could read about allergies as I hoped	Looks highly reliable written by professionals and also the web address seems to emulate this aswell
<b><u>Monroe EW, Daly AF, Shalhoub RF.</u></b>	<b>Appraisal of the validity of histamine-induced wheal and flare to predict the clinical efficacy of antihistamines.</b>	<a href="http://www.ncbi.nlm.nih.gov/pubmed/9042073">http://www.ncbi.nlm.nih.gov/pubmed/9042073</a>	An abstract which I could read and understand the efficiency of antihistamines however was not as useful as I hoped	Looks highly reliable written by professionals and also the web address seems to emulate this aswell
<b>Caroline Hadley</b>	<b>Food allergies on the rise? Determining the prevalence of food allergies, and how quickly it is increasing, is the first step in tackling the problem</b>	<a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1679775/">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1679775/</a>	A report which was very useful however was talking about food which I was not as interested in. but this was only in some areas	Looks highly reliable written by professionals and also the web address seems to emulate this aswell
<b>Clinuvel</b>	<b>Solar urticaria</b>	<a href="http://www.clinuvel.com/en/skin-science/skin-conditions/rare-skin-conditions/solar-urticaria-su">http://www.clinuvel.com/en/skin-science/skin-conditions/rare-skin-conditions/solar-urticaria-su</a>	The most useful source I had all the vital information I needed and also some information which I needed where could not find elsewhere on the internet.	Very reliable as written by external organisation and not a blog however as some of the information I used was only found here it may mean if they have a mistake that I will as well as I could not cross reference

				due to the rarity of the information
<b>Sarah Siddons</b>	<b>Solar urticarial overview</b>	<a href="http://health.howstuffworks.com/skin-care/problems/medical/solar-urticaria.htm">http://health.howstuffworks.com/skin-care/problems/medical/solar-urticaria.htm</a>	Useful to some degree however was only an overview so lacked the depth I was looking for however it reassured me I had used a previous reference was accurate as it mentioned the same source	Very reliable as it mentions a reference which I had already used so shows concordance in my information
<b>Clinical trials. gov</b>	<b>Phase 2 Solar urticarial (SU) pilot study</b>	<a href="http://clinicaltrials.gov/show/NCT00859534">http://clinicaltrials.gov/show/NCT00859534</a>	Not very useful as I did not use the information which I learnt from here	Very reliable as independent organisation which works for the us governments health sector
<b>NHS</b>	<b>Solar urticaria</b>	<a href="http://www.srft.nhs.uk/EasySiteWeb/getresource.axd?AssetID=3515&amp;type...">http://www.srft.nhs.uk/EasySiteWeb/getresource.axd?AssetID=3515&amp;type...</a>	Very useful and reassuring as uses facts which I used from other not so well known sources	Very reliable as it is the NHS
	<b>CBT</b>	<a href="http://www.nhs.uk/Conditions/Cognitive-behavioural-therapy/Pages/What-is-it-used-for.aspx">http://www.nhs.uk/Conditions/Cognitive-behavioural-therapy/Pages/What-is-it-used-for.aspx</a>	Gave me a greater understanding than Wikipedia	Very reliable as it is the NHS
	<b>Anaphylaxis</b>	<a href="http://www.nhs.uk/Conditions/Anaphylaxis/Pages/Introduction.aspx">http://www.nhs.uk/Conditions/Anaphylaxis/Pages/Introduction.aspx</a>	Gave me a greater understanding than Wikipedia of the condition of anaphylaxis	Very reliable as it is the NHS
	<b>Topical steroids</b>	<a href="http://www.nhs.uk/Conditions/Corticosteroid-preparations-(topical)/Pages/Side-effects.aspx">http://www.nhs.uk/Conditions/Corticosteroid-preparations-(topical)/Pages/Side-effects.aspx</a>	Helped me get to know what the side effects are of this particular treatment	Very reliable as it is the NHS
<b>Clint Cooper</b>	<b>North-Georgia, 3 year old allergic to sunlight</b>	<a href="http://timesfreepress.com/news/2012/may/31/31e-seeing-red-sunlight-allergy-chattanooga/?print">http://timesfreepress.com/news/2012/may/31/31e-seeing-red-sunlight-allergy-chattanooga/?print</a>	Useful giving me a personal account of the sufferer of the allergy	Reliable because it was written by a well-known organisation which write reports
<b>Henry W. Lim, Herbert Honigsmann, John Hawk</b>	<b>Photodermatology</b>	<a href="http://books.google.co.uk/books?id=g-YCKEPYMpYC&amp;pg=PA190&amp;dq=solar+urticaria+photoallergen&amp;hl=en#v=onepage&amp;q=solar%20urticaria%20photoallergen&amp;f=false">http://books.google.co.uk/books?id=g-YCKEPYMpYC&amp;pg=PA190&amp;dq=solar+urticaria+photoallergen&amp;hl=en#v=onepage&amp;q=solar%20urticaria%20photoallergen&amp;f=false</a>	Helped me understand what photo allergens were but was not used in the report	Very useful as was a reliable book written by many writers
<b>British porphyria association</b>	<b>Cutaneous Porphyria</b>	<a href="http://www.porphyrria.org.uk/?page_id=267">http://www.porphyrria.org.uk/?page_id=267</a>	Fairly useful as it gave all the information I wanted however I did not use it in my report	Reliable as it was written by the Britain association of porphyria

<b>Allergy UK</b>	<b>What is an allergy</b>	<a href="http://www.allergyuk.org/what-is-an-allergy/what-is-an-allergy">http://www.allergyuk.org/what-is-an-allergy/what-is-an-allergy</a>	Very useful giving me reliable facts and figures and good understanding of the topic	Very reliable as it is a national organisation in order to tackle allergies
	<b>Why is allergy increasing</b>	<a href="http://www.allergyuk.org/why-is-allergy-increasing/why-is-allergy-increasing">http://www.allergyuk.org/why-is-allergy-increasing/why-is-allergy-increasing</a>	It gave me a good understanding to a difficult concept and was very useful.	Very reliable as it is a national organisation in order to tackle allergies
<b>Anonymo us blog</b>	<b>The rare and unfortunate aquagenic urticarial</b>	<a href="http://water.thinkaboutit.eu/think5/post/the_rare_and_unfortunate_aquagenic_urticaria/">http://water.thinkaboutit.eu/think5/post/the_rare_and_unfortunate_aquagenic_urticaria/</a>	Not very useful as it was not the allergy I researched but was good to use in the beginning prior when iw as choosing the allergies to research in the project.	Not very reliable therefore showed me the lack of information available for aquagenic urticarial and helped me decide to solar urticarial instead as its research was more reliable and thorough in comparison. Also blog so unreliability so work could be changed and edited.
<b>Allergy associatio n inc.</b>	<b>Allergy Statistics</b>	<a href="http://www.allergyassociationinc.com/allergy-statistics/">http://www.allergyassociationinc.com/allergy-statistics/</a>	Very useful webpage full of statistics however too many for my eyes to focus on the ones which I wanted	Fairly reliable with references to many sources showing that it acknowledges them and the url sounds promising although it may have been out dated and not as up to date as my other sources
	<b>10 strangest allergies</b>	<a href="http://www.oddee.com/item_96791.aspx">http://www.oddee.com/item_96791.aspx</a>	Useful in gaining my interest of the topic but had no other use	Un reliable as it was a blog page where people may comment hence why I did not use it in my work but merely read it for entertainment purposes
<b>Genetics and rare diseases informati on center</b>	<b>Aquagenic urticaria</b>	<a href="http://rarediseases.info.nih.gov/gard/10901/aquagenic-urticaria/resources/1">http://rarediseases.info.nih.gov/gard/10901/aquagenic-urticaria/resources/1</a>	Not very useful as I did not end up writing about it in the report or mention it in the production log	Fairly reliable as it is not a blog but a researching organisation
<b>National organizati on of Rare</b>	<b>Urticaria</b>	<a href="http://www.rarediseases.org/rare-disease-information/rare-diseases/byID/250/viewAb">http://www.rarediseases.org/rare-disease-information/rare-diseases/byID/250/viewAb</a>	Useful giving a list of rare illnesses to think about researching before I had chosen solar urticarial	Fairly reliable as it is not a blog but a researching organisation

<b>Disorders</b>		stract		
<b>Skin genes uk</b>	<b>Photosensitivity and solar urticaria</b>	<a href="http://skinegenes.co.uk/">http://skinegenes.co.uk/</a>	Partially useful as it gave me understanding to photosensitive skin but was not used after words	Up to date and relevant and looks very modern and has weekly updates to stay relevant
<b>Support group for sunsensitive people</b>	<b>Solar urticaria</b>	<a href="http://sun1.awardspace.com/Conditions/Conditions/Solar_Urticaria/solar_urticaria.htm">http://sun1.awardspace.com/Conditions/Conditions/Solar_Urticaria/solar_urticaria.htm</a>	Very useful giving the information on solar urticarial which I wanted in the correct depth and correct easy to understand English with accurate statistics used well	Created by a support group and looks formal hence I believe it is reliable as they also state "We are not physicians, we are people trying to learn about our conditions and better our lives. We try to be accurate, but the articles and advice may have errors, become out-of-date, or even give bad advice." Therefore have an understanding for their own error which I took into account therefore I did not use them as they weren't professionals
<b>Author: Ani L Tajirian, MD; Chief Editor: Dirk M Elston, MD</b>	<b>Solar urticaria: a clinical presentation</b>	<a href="http://emedicine.medscape.com/article/1050485-clinical">http://emedicine.medscape.com/article/1050485-clinical</a>	Gives good background information for solar urticarial	Reliable as this website has copyright laws and infringement legislations hence they must have accurate and valuable information Also it was written by a doctor of medicine who is a professional and great understanding in the field
<b>Mark Hanks</b>	<b>Usefully Useless: Everything you'd Never Learn at School (But May Like to</b>	<a href="http://books.google.co.uk/books?id=Bk-xgsnuFRQC&amp;pg=PA116&amp;lpg=PA116&amp;dq=1+in+23+milli on+aquagenic&amp;source=bl&amp;ots=BQxPyFYjtf&amp;sig=DWupgdqceXYGa0EO1zxLkvp06o">http://books.google.co.uk/books?id=Bk-xgsnuFRQC&amp;pg=PA116&amp;lpg=PA116&amp;dq=1+in+23+milli on+aquagenic&amp;source=bl&amp;ots=BQxPyFYjtf&amp;sig=DWupgdqceXYGa0EO1zxLkvp06o</a>	Was useless book however for the one section which I needed which was very useful for that statistic	Reliable book which was published and also available online

	Know)	<a href="https://www.google.com/search?q=1%20in%2023%20million%20aquagenic&amp;f=false&amp;hl=en&amp;sa=X&amp;ei=BmvQUYFN8mD4gSy24HADg&amp;ved=0CGQQ6AEwBw#v=onepage&amp;q=1%20in%2023%20million%20aquagenic&amp;f=false">k&amp;hl=en&amp;sa=X&amp;ei=BmvQUYFN8mD4gSy24HADg&amp;ved=0CGQQ6AEwBw#v=onepage&amp;q=1%20in%2023%20million%20aquagenic&amp;f=false</a>		
Medical news today	Common food allergies	<a href="http://www.medicalnewstoday.com/releases/8624.php">http://www.medicalnewstoday.com/releases/8624.php</a>	Useful due to a recent up to date current news article with a lot of information. Although I did not use all the information I merely understood it so I could later on use it in my presentation as examples	Fairly reliable with accurate accounts of the dates created however I did not see the individuals name who created it
Nancy Appleton Books health	Allergies and diseases	<a href="http://nancyappleton.com/allergies-disease/">http://nancyappleton.com/allergies-disease/</a>	Very useful to help me differentiate between allergies and disease	Fairly reliable referring to doctors and was an article to be read online
Google scholar	Searched Solar urticaria	<a href="http://scholar.google.co.uk/scholar?hl=en&amp;q=solar+urticaria&amp;btnG=&amp;as_sdt=1%2C5&amp;as_sdtp=">http://scholar.google.co.uk/scholar?hl=en&amp;q=solar+urticaria&amp;btnG=&amp;as_sdt=1%2C5&amp;as_sdtp=</a>	Very useful as it gives a search of scholarly literature written about Solar urticarial which highly useful for my project and report	Reliability depends on the link I used
Alexandra Minna Stern and Howard Markel	The History Of Vaccines And Immunization : Familiar Patterns, New Challenges	<a href="http://content.healthaffairs.org/content/24/3/611.full">http://content.healthaffairs.org/content/24/3/611.full</a>	Very useful as it built on what the Wikipedia page had already told me assuring me it was accurate	Very reliable and also helped me decide that the Wikipedia page I viewed for the vaccine history was reliable as well
Unknown	Air pollution	<a href="http://www.atmos.washington.edu/academics/classes/2011Q1/212/Week6-7LectureNotes.pdf">http://www.atmos.washington.edu/academics/classes/2011Q1/212/Week6-7LectureNotes.pdf</a>	Gave me accurate account of air pollution in the mid-20 <sup>th</sup> century and was easy to read due to the slide presentation layout	Was in a presentation layout which made me cautious when looking it at it and did not take its information for face value but went to external sources to double check its information in order to know it was correct
Jo hannes Ring Ursula Krämer <sup>b</sup> ,	Why are allergies increasing	<a href="http://www.sciencedirect.com/science/article/pii/S0952791501002825">http://www.sciencedirect.com/science/article/pii/S0952791501002825</a>	Provided me with information and graphs to help answer why allergies are increasing which was very useful	Very reliable as it is made by many authors and also is on sale online showing it has worth and is valuable while

<p><b>I</b> <b>orsten</b> <b>Schäfer<sup>a</sup>,</b> <b>H</b> <b>eidrun</b> <b>Behrendt<sup>c</sup></b></p>				<p>also being on a science website</p>
<p><b>Jo</b> <b>hannes</b> <b>Ring</b> <b>Ursula</b> <b>Krämer<sup>b</sup>,</b> <b>I</b> <b>orsten</b> <b>Schäfer<sup>a</sup>,</b> <b>H</b> <b>eidrun</b> <b>Behrendt<sup>c</sup></b></p>	<p><b>Why are allergies increasing</b></p>	<p><a href="http://www.unb.br/posgraduacao/stricto_sensu/Artigos%20prova%20escrita%20edita%20Sa%C3%BAde%20Animal/Ring%20et%20al.,%202001.pdf">http://www.unb.br/posgraduacao/stricto_sensu/Artigos%20prova%20escrita%20edita%20Sa%C3%BAde%20Animal/Ring%20et%20al.,%202001.pdf</a></p>	<p>Provided me with information and graphs to help answer why allergies are increasing which was very useful however is over a decade old so may be out of date and not so relevant</p>	<p>Made by a postgraduate so is fairly reliable as it was a marked piece of work which they would not lie and would instead take care in making it</p>
<p><b>Dr</b> <b>Mercola</b></p>	<p><b>How to Address Allergies and Asthma Symptoms as “Worst Allergy Season Ever” Begins</b></p>	<p><a href="http://articles.mercola.com/sites/articles/archive/2013/04/18/allergy-season.aspx">http://articles.mercola.com/sites/articles/archive/2013/04/18/allergy-season.aspx</a></p>	<p>Useful gave accurate facts which were seen in other sources</p>	<p>Sounds slightly biased and not as formal as I would have liked</p>
<p><b>p</b> <b>atient.co.uk</b></p>	<p><b>Urticaria</b></p>	<p><a href="http://www.patient.co.uk/doctor/Urticaria.htm">http://www.patient.co.uk/doctor/Urticaria.htm</a></p>	<p>Useful in the sense of giving me an understand to hives and urticarial but was not used directly in my work</p>	<p>Referenced many other sources was fairly reliable</p>
<p><b>Dr</b> <b>Victoria</b> <b>lewis</b></p>	<p><b>Solar urticaria</b></p>	<p><a href="http://www.netdoctor.co.uk/diseases/facts/solarurticaria.htm">http://www.netdoctor.co.uk/diseases/facts/solarurticaria.htm</a></p>	<p>Very useful as It explained simply and also the technicalities of the allergy</p>	<p>Was written by a doctor therefore is very reliable as they have spent several years researching and working with the illness</p>
<p><b>A.</b></p>	<p><b>Allergy and Allergic</b></p>	<p><a href="http://books.google.co.uk/books?hl=en&amp;lr=&amp;id=q_3T">http://books.google.co.uk/books?hl=en&amp;lr=&amp;id=q_3T</a></p>	<p>Useful although not all of it could be used. Also it had</p>	<p>Was expensive so I could not use it all</p>

Barry Kay, Allen P. Kaplan, Jean Bousquet, Patrick G. Holt	diseases	<a href="https://pubmed.ncbi.nlm.nih.gov/12XvP5YC&amp;oi=fnd&amp;pg=PR9&amp;dq=clemens+von+pirquet+allergies&amp;ots=98EWBWDkSa&amp;sig=7kicEdfflqgOIODu8GXBpC-d3f4#v=onepage&amp;q=clemens%20von%20pirquet%20allergies&amp;f=false">12XvP5YC&amp;oi=fnd&amp;pg=PR9&amp;dq=clemens+von+pirquet+allergies&amp;ots=98EWBWDkSa&amp;sig=7kicEdfflqgOIODu8GXBpC-d3f4#v=onepage&amp;q=clemens%20von%20pirquet%20allergies&amp;f=false</a>	substantial information I did not understand and also the time to read due to the deadlines I had to meet.	but was very reliable and was the 1 <sup>st</sup> volume of the edition
Sandra Gibson	Allergies- How did they come about	<a href="http://ezinearticles.com/?Allergies---How-Did-They-Come-About?&amp;id=3962682">http://ezinearticles.com/?Allergies---How-Did-They-Come-About?&amp;id=3962682</a>	Very interesting and factual and was very useful and motivated me to carry on researching about allergies	The author is not a doctor
John Henderson	Allergy – the history of a Modern Malady	<a href="http://www.bmj.com/content/333/7569/659?rss">http://www.bmj.com/content/333/7569/659?rss</a>	Book review which was not so useful and was not used	Book review therefore could be biased
Lucy Elkins	Are you allergic to the sun? For one in six of us, blazing skies are VERY bad news...	<a href="http://www.dailymail.co.uk/health/article-1294166/Are-allergic-sun-For-blazing-skies-VERY-bad-news-.html">http://www.dailymail.co.uk/health/article-1294166/Are-allergic-sun-For-blazing-skies-VERY-bad-news-.html</a>	Very useful as it gave me a personal account of someone's encounter with the illness	Tabloid newspaper so is less reliable than others
Hirotake OZAKI, Takashi MATSUYA MA, Yo KAWAKU BO, Motomi MIYAHARA and Akira OZAWA	A Case of Type IV Solar Urticaria Identified by Reverse <i>in Vitro</i> Serum Test	<a href="http://mj.med.u-tokai.ac.jp/pdf/280202.pdf">http://mj.med.u-tokai.ac.jp/pdf/280202.pdf</a>	Was not very useful as the content was not specific to my topic	Very reliable as it looks like an official document
Holly A Kerr & Henry W	Photodermatoses in African Americans: A	<a href="http://www.jaad.org/article/S0190-9622(07)00911-5/abstract">http://www.jaad.org/article/S0190-9622(07)00911-5/abstract</a>	Very useful study which I used in my report	The sample was large and showed reasonable data which did not sound farfetched but the



Lim	retrospective analysis of 135 patients over a 7-year period			sample could have been bigger to be more reliable
D eLisa Fairweath e	Auto immune disease mechanism	<a href="http://www.roitt.com/elspdf/Autoimmune_Disease_Mechanisms.pdf">http://www.roitt.com/elspdf/Autoimmune_Disease_Mechanisms.pdf</a>	Helped me understand how auto immune diseases function and helped me differentiate them with allergies	Reliable document
W VEC	The list of odd allergies	<a href="http://www.wvec.com/news/The-List-Odd-allergies--66154822.html">http://www.wvec.com/news/The-List-Odd-allergies--66154822.html</a>	Useful in the way that It made me understand that I wanted to research a 'weird' allergy but was not useful in any other way	Unreliable but helped me learn a rough idea of what I wanted to research
Dr . Morris Westfried	Reaction to the sun	<a href="https://www.healthtap.com/#user_questions/44636-can-you-explain-what-is-solar-urticaria">https://www.healthtap.com/#user_questions/44636-can-you-explain-what-is-solar-urticaria</a>	Useful in that it was a forum where my specific question was answered so was straight to the point	Was reliable as question was answered by a doctor although it was a forum so there may be some unreliability
B BC	Child treated for rare sun allergy	<a href="http://news.bbc.co.uk/1/hi/wales/2188754.stm">http://news.bbc.co.uk/1/hi/wales/2188754.stm</a>	Fairly useful until I had found better similar resources	Very reliable as it was by the bbc
	Chernobyl voices: Viktoria Bormotova	<a href="http://news.bbc.co.uk/1/hi/world/europe/4925788.stm">http://news.bbc.co.uk/1/hi/world/europe/4925788.stm</a>	Not useful as it was out of context and had no relevance	Very reliable as it was by the bbc
Y outube	Solar urticaria	<a href="https://www.youtube.com/watch?feature=player_embedded&amp;v=iouIZmQjcAY">https://www.youtube.com/watch?feature=player_embedded&amp;v=iouIZmQjcAY</a>	Not that useful as I did not have time to look through the whole video but it showed some good illustrations	Unreliable as anyone could have posted it
St ephen J. Galli &Mindy Tsai & Adrian M. Piliponsky	Review article about allergic inflammation	<a href="http://www.nature.com/nature/journal/v454/n7203/full/nature07204.html">http://www.nature.com/nature/journal/v454/n7203/full/nature07204.html</a>	Was good help in understanding the affects allergies have on people	Was fairly reliable article using correct vocabulary however it was more reliable after I checked other sources of its kind and saw they were saying similar things