

## Attributes of Women Farmers for Tobacco Production

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### ABSTRACT

The study aimed to explore the knowledge, attitudes, and practices of women farmers working in tobacco production concerning the social, environmental, and health impacts of this economic activity. Focus groups were used in this qualitative study, and themes were explored until reaching saturation. The study was conducted in a municipality (county) in southern Brazil in 2013 and included 64 women farmers. The discussions revealed participants' familiarity with health problems associated with workloads in tobacco production: green tobacco sickness, pesticide poisoning, musculoskeletal disorders, and others. The discussions also revealed a concern with the negative impacts of tobacco agriculture on the environment. They also revealed apprehension concerning decisions on switching to alternatives for sustainable agricultural production, emphasizing that on-going and systematic government support would be necessary for such a transition. Women farmers identified various factors that contribute to the persistence of tobacco farming: small holdings for cultivation, lack of guarantees for marketing crops, and indebtedness to tobacco companies. The study showed that an integrated approach is needed to deal with tobacco farmers' problems, considering a balance between farmers' beliefs and government decisions. This approach, in keeping with the recommendations of the WHO Framework Convention on Tobacco Control, may help strengthen policies and measures to promote health and sustainable local development.

**Keywords:** Tobacco; Agriculture; Rural Health; Environmental Health; Social Conditions

### INTRODUCTION

Tobacco is grown in at least 129 countries. According to data from the Food and Agriculture Organization of the United Nations (FAO), China, Brazil, India, USA, Indonesia, and Malawi concentrated 71% of tobacco production from 2004 to 2013, during which there was a 13% increase in global tobacco leaf production (FAO. <http://faostat3.fao.org/download/Q/QC/E>, accessed on 07/Jan/2016).

Brazil is the largest exporter and one of the three largest tobacco leaf producers in the world <sup>1</sup>. The main varieties of tobacco produced commercially in the country are Virginia, Burley, and common, with Virginia as the leading variety. According to the Brazilian Institute of Geography and Statistics (IBGE), in 2014 some 719 Brazilian municipalities (counties) had tobacco-growing areas, of which 90% were located in the South, concentrating 97% of the country's production (IBGE. Sistema IBGE de recuperação automática. <http://www.sidra.ibge.gov.br/bda/agric/default.asp?z=t&o=11&i=p>, accessed on 07/Jan/2016).

Since tobacco agriculture poses health risks for the farming families and harm to the environment, a study was conducted in Palmeira, a tobacco-growing municipality located in Paraná State in the South of Brazil. In Paraná, 42% of the municipalities grow tobacco and Palmeira ranked eighth among the leading producers in 2013 (Instituto Paranaense de Desenvolvimento Econômico e Social. Anuário Estatístico do Estado do Paraná, 2013. [http://www.ipardes.pr.gov.br/anuario\\_2013/index.html](http://www.ipardes.pr.gov.br/anuario_2013/index.html), accessed on 20/Mar/2016). At the national level, the city ranked 26<sup>th</sup> among the tobacco-growing municipalities that year (IBGE. Produção agrícola municipal. [http://www.ibge.gov.br/home/estatistica/economia/pam/2012/default\\_temp\\_xls.shtm](http://www.ibge.gov.br/home/estatistica/economia/pam/2012/default_temp_xls.shtm), accessed on 20/Mar/2016). The family

farming model is the basis of agricultural production in Palmeira <sup>1</sup>. Tobacco production in Palmeira is similar to that in other tobacco-growing areas in southern Brazil, with the Virginia type <sup>2,3,4</sup>,

Family members involved in tobacco farming are subject to workloads that can result in illness. The work is done manually, requiring repetitive movements and awkward postures for long periods, leading to musculoskeletal disorders. Except during the curing/drying and pre-classification stages, all the other work is done outdoors, exposing people to the elements and risk of disease from prolonged solar radiation, such as skin cancer. Widespread use of pesticides from various toxicological classes exposes tobacco-farming families to the risk of acute and chronic poisoning. Male and female workers are exposed to the nicotine in the tobacco leaves, especially during harvesting, resulting in green tobacco sickness. These workloads and stress and strain have been documented in Brazilian and international studies <sup>5,6,7,8,9</sup>. Tobacco agriculture negatively impacts the environment, causing deforestation, soil depletion, and contamination of the water, air, and soil, as reported by Lecours et al. <sup>5</sup>, Novotny et al. <sup>10</sup>, and Riquinho & Hennington <sup>9</sup>.

In Brazil, the Integrated Tobacco Production System (SIPT in Portuguese) regulates relations between tobacco farmers and tobacco companies, through purchase and sale contracts on the harvest <sup>3</sup>. Through such contracts, tobacco companies determine the work activities, supply inputs (pesticides, fertilizers, etc.), provide technical assistance, and control the final classification of the tobacco leaves for payment of the crop, among other provisions. The families' duties include sale of the complete harvest to the company and compliance with legal requirements pertaining to environmental protection and health in the work.

Articles 17 and 18 of the World Health Organization Framework Convention on Tobacco Control (WHO-FCTC) establish measures to protect human health and the environment from the harmful effects of tobacco agriculture and to promote economically viable alternatives in the context of sustainable development. The WHO-FCTC aims to protect current and future generations from the devastating health, social, environmental, and economic consequences of tobacco consumption and exposure to tobacco smoke. Given the issue's importance, the sixth Conference of the Parties of the Framework Convention (COP) in 2014, reiterating the recommendations of the fifth COP in 2012, recommended measures for implementation of article 18 of the WHO-FCTC, including studies on the health and environment impacts of tobacco production, analysis of the principal barriers, and opportunities for implementation of health and environmental protection policies related to tobacco farming

Since family farming is historically the predominant form of agricultural production in tobacco-growing areas in Brazil and elsewhere in the world, understanding the relationship between tobacco-farming families and tobacco farming as a form of subsistence and determinant factor for their health and life is essential for the implementation of policies related to articles 17 and 18 of the WHO-FCTC.

Studies with women farmers are thus important to help understand the beliefs, attitudes, and practices of tobacco-farming families on the relationship between tobacco farming, the environment, and health, given women's importance in guaranteeing reproduction of the family workforce, household work, care for the family, and work in all phases of tobacco farming

Studies on beliefs, attitudes, and practices are used to learn what people know, feel, and act in relation to a given subject. According to Kaliyaperumal, a community's knowledge or belief expresses their understanding of a given subject. Attitudes are related to feelings and preconceived ideas on a given subject. Practices represent the way people demonstrate their knowledge and attitudes through actions. According to Kaliyaperumal, the grasp of levels of knowledge, attitudes, and practices on a given subject is useful for developing actions that are more appropriate for a

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### Attributes of Women Farmers for Tobacco Production

Chayal Kesar

community's needs.

Based on Kaliyaperumal's approach, and aiming to back policies and measures to implement Article 18 of the WHO-FCTC, the current study analyzed the beliefs, attitudes, and practices of women farmers on the social, environmental, and health impacts of tobacco agriculture for tobacco-farming families.

#### **MATERIAL AND METHODS**

This was an exploratory study using qualitative information from focus groups to explore the beliefs, attitudes, and practices of women tobacco farmers on the social, environmental, and health risks of tobacco farming.

The choice of women farmers as study subjects was due to their role in tobacco production, combined with their essential role in care for the family, especially related to health. Studies have also shown a general trend for women to feel and express more concerns than men, and that this perception is mediated by the social context

The sample was purposive and included women residing in tobacco-growing areas in the selected municipality. Study subjects were identified according to essential attributes to guarantee the sample's homogeneity: adult women ( $\geq 18$  years); farm work as their principal or secondary occupation; and participation in at least one cycle of tobacco growing. To understand possible internal differences, other attributes were used to comprise the sample: (a) individual: age bracket, role in family arrangement; and (b) farm production: farm property used exclusively for growing tobacco versus crop diversification; families that hired versus did not hire farm labor; and size of the area used for tobacco cultivation. The original plan was to only recruit women that were participating in tobacco-growing at the time of the survey, but at the suggestion of the local Farm Workers' Union, we also included retired women due to their experience and contacts and because they still participated in the tobacco-farming context, in some cases as community leaders.

The study included 64 women residing in 14 tobacco-growing areas, representing 60% of such areas in Palmeira, Paraná State. The principal characteristics were age 21 to 71 years (mean = 44) and education ranging from incomplete primary (47.8%) to complete university (1.4%). Farming was the primary occupation of 89.1% of participants, while 6.3% were retired and the others had some other primary occupation. Farming was the principal source of income for the participants' families, with tobacco-growing on 91.8% of the properties.

Many exploratory studies have adopted the focus group technique, since it allows knowledge on the opinions, beliefs, attitudes, and practices of persons with common characteristics on a given theme, through their interaction in discussion groups. The technique was used in a study in a rural community to measure risk perception related to pesticide use. Focus groups have proven adequate when the study subjects are in a situation of vulnerability, since the group format provides security through its collective approach. Considering the context of tobacco farming in which persons may fear participating in such studies due to pressure by tobacco companies<sup>3</sup>, this technique was considered appropriate for the current study. In order to avoid potential refusals to participate and to allow the discussions to flow freely, we opted not to record the focus group sessions.

A total of five groups were held in the first half of 2013, based on the saturation criterion. Participants were identified according to the selection attributes and invited by the team of community health workers from the Municipal Health Secretariat and the Rural Workers' Union. Meetings were held in different rural locations in Palmeira in order to facilitate access by participants. The number of participants in the focus groups varied from 5 to 16 women, not counting the group

with the least participants, held at a difficult-to-reach location on a rainy day; the other groups averaged 14 participants. Each focus group had two people from the research team that moderated and observed the groups, plus a community health worker that assisted the group. Observation consisted of analyzing the group and conducting the discussion and concentrated on grasping the participants' reactions and developing a report of key events such as possible contradictions and tense moments.

The discussion was based on trigger questions prepared according to the analytical perspectives of the DPSEEA model (Driving force, Pressure, State, Exposure, Effect, Action) proposed by the World Health Organization. This data matrix allows framing problems based on the local reality, fostering an understanding of interrelations between distal and proximal factors that determine health effects on populations. During the discussion, participants were asked to write their opinions on the question being debated; whoever experienced difficulty was assisted by the community health worker. The continuous written record of the discussion kept the ideas accessible to participants and avoiding losing their contributions. At the end of each discussion, each group produced a data matrix, validated by the participants, a summary of the discussion, reflecting the life scenario of tobacco-farming families based on the participants' experiences in tobacco farming.

Data analysis used the data matrices built by each group, observation reports, data from questionnaires on social and demographic characteristics and tobacco production, and the results of field visits. The material was used to elucidate the context of tobacco farming based on the participants' own experiences, considering the internal contradictions that permeated the discussions. After reading the material, a classification was performed in categories that described the context of tobacco growing for the tobacco-farming families. The analytical categories identified were: relationship between tobacco farming and impacts on health and the environment, relationship between tobacco farming and mode of subsistence, and relationship between tobacco farming and future prospects. The data were interpreted by members of the research team with different academic backgrounds and who worked in the field activities. A seminar to present the study's results to the community and local government was held in the municipality in September 2013, when participants and local community leaders confirmed that the results reflected their experiences.

The fact that the focus groups were not recorded may have been a limitation to the study. Still, we attempted to minimize the effects during the discussion dynamic by building the data matrix and group observation reports.

All women farmers that agreed to participate in the study were informed of its objectives and signed a free and informed consent form, besides completing a questionnaire on social and demographic characteristics and tobacco agriculture.

The study was approved by the Institutional Review Board of the Sergio Arouca National School of Public Health, Oswaldo Cruz Foundation, on September 4, 2012 (case review 89,452).

## **RESULTS AND DISCUSSION**

The focus group discussions transpired pleasantly and with extensive participation by the study subjects.

### **Tobacco farming and impacts on health and the environment**

In Palmeira, given the shortage of hired labor or the inability of tobacco-farming families to cover this expense, tobacco growing relies almost exclusively on the family's own workforce, including adolescents and elders. This situation underscores participants' reports of the workloads and stress

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## **Attributes of Women Farmers for Tobacco Production**

*Chayal Kesar*

and strain suffered while performing these activities.

Since all stages of the manual labor require awkward postures (squatting, stooping), lifting heavy weights and/or intense physical effort, especially during harvest, loading/unloading in the tobacco curing shed, and baling, the women farmers emphasized that work in all these stages causes upper and lower back and leg pain, eventually leading to musculoskeletal disorders. The women reported that the type of work and methods and production targets specified in the contract involve prolonged workdays and intense work for the family. In this context, they stated that *“some days we have to work around the clock”* and that *“women suffer the most”*, since they take care of the family besides doing the farm work. Concerning the continuity of the process, harvest after harvest, they said, *“by the time the classification is over, you’re already preparing the firewood for the next crop”*.

Similar to the information from our study, a study with men and women farmers in Santa Cruz do Sul, Rio Grande do Sul State, Brazil, showed significant rates of complaints concerning lumbar, cervical, shoulder, and thigh pain related to the conditions and organization of labor in tobacco farming. Another study, in São Lourenço do Sul, Rio Grande do Sul State, found an association between chronic lower back pain and activities that require heavy physical effort and awkward postures in tobacco farming.

Green tobacco sickness (GTS) was reported consistently as a common health problem during tobacco harvesting, manifested as dizziness, headache, nausea, vomiting, fatigue, and abdominal pain. Participants reported that during harvest the workers are exposed to high nicotine levels. They believe that *“one day of picking tobacco is equivalent to smoking 60 cigarettes”*. This exposure appears in the body: *“my kid got the jitters on account of the green tobacco leaves”* or they say they work on the harvest one day and rest the next to recover from the nicotine poisoning.

GTS is acute poisoning triggered by transdermal absorption of nicotine from green tobacco leaves, the acute symptoms of which are nausea, vomiting, fatigue, dizziness, headache, insomnia, and loss of appetite. According to McBride et al. and Riquinho & Hennington<sup>9</sup>, this work-related disease has been documented internationally since 1970. In Brazil, epidemiological studies in São Lourenço do Sul (2011) and Candelária, Rio Grande do Sul State (2009), and Arapiraca, Alagoas State (2007), showed that tobacco workers presented the same symptoms as in participants in our study during harvest season. A qualitative study by Riquinho & Hennington<sup>6</sup> in Rio Grande do Sul State, based on life and work histories, showed signs and symptoms of GTS in tobacco-farming families<sup>6</sup>, corroborating the current study, revealing people’s clear perception of the potential of tobacco growing to damage their health.

Some mental and behavioral disorders such as anxiety disorder, sleep disorder, reactions to stress, and depressive episodes were identified in the stress and strain of tobacco-farming families due to the work conditions and organization and contractual relations with the tobacco companies. The tobacco curing and drying stage requires uninterrupted work for long waking periods, leading to cases of sleep disorder and contributing to the exacerbation of reactions to stress and anxiety. *“Sometimes you get some ugly tobacco and it makes you all nervous”*, said the women farmers about the family’s high levels of anxiety, all the way from harvest through the crop’s sale, given the uncertainty concerning the crop’s final classification. Depressive episodes were also associated with this period. And these problems require better diagnostic investigation: according to the participants, *“the doctors don’t go to great lengths to investigate depression. Sometimes they just give you medication for the depression and don’t inquire about the cause”*.

The tobacco leaves’ final classification is a nervous time for the families, since it determines the crop’s value. This stage is complex and technical, since Virginia tobacco has 48 different classes and serves

as an instrument for control and manipulation by the sponsoring companies (the contracts stipulate that families have to reimburse the companies for advance payments during cultivation and cover the crop's transportation cost from the farm property to the company in case the family disagrees with the final classification)<sup>3</sup>. Due to this context of economic dependency, the farm families work exclusively on the tobacco crop, even more intensely during the harvest and curing, with high expectations and concern with the crop's success. The psychological distress of men and women tobacco farmers was shown in a study in Santa Cruz do Sul, Rio Grande do Sul State, when they reported symptoms of tension, fearful expectation, excessive concern, motor restlessness, and physical sensations, which they related to the work organization in tobacco farming and the fear of suffering a setback with the crop due to bad weather and the threat of the leaves' low final classification.

The women identified a clear, direct association between health problems and pesticide use in tobacco growing, reporting nonspecific symptoms (such as malaise, headache, dizziness, nervousness, impatience, sleep problems, and stomach ache) all the way to well-defined diseases (dermatoses, depression) resulting from pesticide poisoning. And while acknowledging the potential of these products to cause long-term harm, including cancer, they voiced their concern in the following terms: *"so far no problems have appeared from the poison, but who knows in the future"*. Some women initially downplayed the potential harm from the pesticides, claiming that the pesticides used on other farm crops were more damaging to health. Still, during the discussions, as they recalled cases of poisoning in the family or neighbors after applying pesticides, they appeared to reflect and agree that exposure to these products posed a real health risk in tobacco farming.

Although only a few studies have identified the association between damage to health and pesticide use in tobacco growing, they support the current study's findings by showing the exposure of men and women farmers to a wide variety of pesticides during tobacco growing and symptoms resulting from such exposure, as shown by Riquinho & Hennington<sup>9</sup> and Lecours. Some participants' uncertainties about pesticides' harmful effects were also observed by Almeida et al., who assessed men and women farmers' perceptions in Ivaí, Paraná State, concerning the health risks from handling pesticides in tobacco farming and showed that they could not identify the symptoms of pesticide poisoning, even though they experienced them. Voicing this possible lack of knowledge or underestimation of the pesticides' potential harms may represent a risk denial strategy that allows them to continue to work under such hazardous conditions, as discussed by Dejours.

As for environmental impacts, the women focused their attention on contamination with the pesticides: *"you're more concerned about the poison's container, but the poison we spray goes into the ground, into the air"*. The women did not mention other environmental problems known to be associated with tobacco farming, such as deforestation and soil depletion<sup>5,9,10</sup>. Their concern over disposing with the pesticide container is likely associated with specific programs for collecting the empty containers by the tobacco companies, linked to compliance with the environmental legislation as stipulated in the contracts.

### **Tobacco farming and subsistence mode**

Since it began in Palmeira in 1960, tobacco farming became one of the main economic activities in the municipality. In 2013, approximately 1,300 families (40% of the rural population) worked in commercial tobacco production. In Palmeira, tobacco is grown by families on small holdings, where they also grow other crops and raise small livestock for subsistence.

Family income is guaranteed by the tobacco leaf purchase-and-sale contracts with nine tobacco companies operating in the municipality. The Integrated Tobacco Production System (SIPT) is

considered a step forward, since it provides a guaranteed market for the crop. Companies operating in Palmeira attempt to guarantee benefits for tobacco-farming families, such as training through the National Service for Rural Learning and assistance in acquiring computers at discount prices as a way of positively reinforcing the companies' image and business credibility.

The presence of the Brazilian Association of Tobacco Farmers (Afubra) in the municipality, to which 91% of the tobacco-farming families belong, also corroborates the favorable aspects for tobacco production in the area, based on such advantages as hail insurance for the crop, fire and storm insurance for the drying sheds, and funeral assistance.

In this context, participants said that *"tobacco drives us down the hole, but we need it anyway"*, showing that despite their perception of the harms of tobacco farming, they consider it a viable alternative for subsistence. The positive characteristics they cited for continuing to grow tobacco were the crop's guaranteed market, ensuring the family's income, tobacco's profitability compared to other crops produced on smallholdings, and the technical and financial support during cultivation through the contracts between the families and tobacco companies. The lack of alternatives to tobacco growing, lack of farm credit for tobacco growers, and indebtedness to tobacco companies were cited as reasons for sticking to this crop.

Participants hesitated when discussing other alternatives for generating income, capable of changing their living conditions. In relation to another farming activity, they reported that *"production of food crops is only for big farmers, while smallholders are left with tobacco"*, since *"a hectare of tobacco guarantees your survival, while other crops with the same amount of land don't guarantee survival [referring to the area available on the property]"*. Still, they express their wish to switch from tobacco to other crops or other alternatives for generating income, as long as with government support: *"Diversification really is necessary. If people had alternatives with the same quality of life, they'd stop planting [tobacco]"*. These quotes illustrate the lack of government action, especially agricultural extension services, to establish a dialogue for demystifying practices that block crop diversification. They also seem to reflect tobacco companies' arguments that a switch to other crops would mean a reduction in existing socioeconomic standards. Since 2005, Brazil has had a National Program for the Diversification of Tobacco-Growing Areas that proposes to support projects for the promotion of diversification strategies on tobacco-growing properties, creating opportunities for income generation and quality of life for the families. However, the program still lacks sufficient institutional investment to expand its reach among tobacco-farming families

In the municipality of Palmeira, few real initiatives have been developed for crop diversification on current tobacco-growing areas. The municipal government launched *ProjetoUva* ("Project Grape") for the production of wine grapes, but it has had a limited impact on tobacco-farming families. The state government, through its rural extension service, took limited measures to draft projects and orient the families. Government measures have been limited and have failed to reach more families due to the lack of trained staff, the need for more funding, and the large number of tobacco-farming families in the municipality.

In this context of strong industry influence and weak government support, the integrated tobacco production system prevails, strengthening ties of economic interdependence between farm families and tobacco companies, leading the families to accept the risks imposed by tobacco farming. Although aware of the risks involved in tobacco production, due to their interests in subsistence, families highlight the benefits of tobacco farming, especially the guaranteed market for their crop, overriding its consequences

### **Tobacco farming and future prospects**

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## **Attributes of Women Farmers for Tobacco Production**

Chayal Kesar

Participants' future expectations are somewhat discouraging, since they fail to glimpse a change to other forms of income generation in the medium and long term. In addition to the factors discussed above, they emphasized that youth's exodus to the cities has contributed to the rural population's aging. As the women said, "*the countryside is going to disappear, because girls don't want this life*". According to the women, in order to protect the family from the harms of tobacco farming and foster new opportunities, they decide to allow their young children to leave the farm in search of new opportunities. This situation was identified by Kummer & Colognese who pointed to the rural exodus, saying that lack of access to an effective income discourages youth, especially girls, from continuing to farm.

The local Rural Workers' Union has made efforts since it was founded in 1985 to expand its agenda to struggle for better conditions and allow farmers to stay in the countryside, especially favoring youth and women. The objectives of the Municipal Secretariat for Rural Development and the Environment also include promotion and participation in measures to retain farmers in the countryside. Still, the measures taken thus far have not had a positive impact on the study subjects, to the point of significantly changing their reality.

In general, tobacco-farming families in Palmeira are involved in a crop production process mediated by an integrated system that both ties them to dependence on the tobacco companies and leaves them in a comfortable situation of guaranteeing the crop's sale, even while contributing to health problems during production. This well-articulated system, combined with limited government action, tends to hinder any feelings of hope among tobacco-farming families for adopting sustainable and healthy subsistence alternatives.

## CONCLUSION

Although this was an exploratory and localized study, it showed that women farmers have a clear understanding of the workloads that tobacco growers are exposed to during crop production and how the process affects them physically and psychologically. The study also evidenced the participants' awareness of tobacco farming's complexity in its historical, economic, social, and environmental aspects, as determinant factors in their lives.

To guarantee better living conditions for tobacco-farming families requires organizing health services to manage the health problems related to tobacco farming, struggling against human rights violations, including child labor, mechanisms to allow youth to remain in the countryside, and solidarity and sustainable forms of organization of social life.

Men and women farmers' understanding of the harm resulting from the tobacco production process and of the other factors (social, political, and economic) for dealing with the situation should be used to orient participatory and emancipatory action by government. Dialogue between tobacco-farming families and professionals from various public sectors (health, environment, agriculture, and social and economic development) can be effective to offset interference by industry.

The study shows the need for an integrated approach, linking scientific and empirical knowledge, diverse fields, and distinct sectors to deal with the tobacco-farming families' problems, considering a balance between their beliefs, attitudes, and practices and policy decisions by different sectors. This integrated approach, in keeping with WHO-FCTC guidelines, can result in strengthening policies and actions to promote health and sustainable local development.

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## ABSTRACT

Irritated skin can be caused by a variety of factors. These include immune system disorders, medications and infections. When an allergen is responsible for triggering an immune system response, then it is an allergic skin condition.

## INTRODUCTION

### Types of skin allergies

#### Atopic Dermatitis (Eczema)

Eczema is the most common skin condition, especially in children. It affects one in five infants but

only around one in fifty adults. It is now thought to be due to “leakiness” of the skin barrier, which causes it to dry out and become prone to irritation and inflammation by many environmental factors. Also, some people with eczema have a food sensitivity which can make eczema symptoms worse. In about half of patients with severe atopic dermatitis, the disease is due to inheritance of a faulty gene in their skin called filaggrin. Unlike with urticaria (hives), the itch of eczema is not only caused by histamine so anti-histamines may not control the symptoms. Eczema is often linked with asthma, allergic rhinitis (hay fever) or food allergy. This order of progression is called the atopic march. An inflammation of the skin that produces a red, scaly, itchy rash is known as dermatitis. Two of the most common types are atopic dermatitis (often called eczema) and contact dermatitis. Eczema is a chronic skin condition that usually begins in infancy or early childhood and is often associated with food allergy, allergic rhinitis and asthma.

Certain foods can trigger eczema, especially in young children. Skin staph infections can cause flare-ups in children as well. Other potential triggers include animal dander, dust mites, sweating, or contact with irritants like wool or soaps.

Preventing the itch is the main goal of treatment. Do not scratch or rub the rash. Applying cold compresses and creams or ointments is helpful. It is important to avoid all irritants that aggravate your condition. If a food is identified as the cause, eliminate it from your diet.

Corticosteroid and other anti-inflammatory creams that are applied to the skin are most effective in treating the rash. Antihistamines are often recommended to help relieve the itchiness. In severe cases, oral corticosteroids are also prescribed. If a skin staph infection is suspected to be a trigger for an eczema flare-up, antibiotics are often recommended.

### **Contact Dermatitis**

When certain substances come into contact with your skin, they may cause a rash called contact dermatitis. There are two kinds of contact dermatitis: irritant and allergic.

Irritant contact dermatitis occurs when a substance damages the part of skin the substance comes in contact with. It is often more painful than itchy. The longer your skin is in contact with the substance, or the stronger the substance is, the more severe your reaction will be. These reactions appear most often on the hands and are frequently due to substances contacted in the workplace.

For irritant contact dermatitis, avoid the substance causing the reaction. Wearing gloves can sometimes be helpful. Avoiding the substance will relieve your symptoms and prevent lasting damage to your skin.

Allergic contact dermatitis is best known by the itchy, red, blistered reaction experienced after you touch poison ivy. This allergic reaction is caused by a chemical in the plant called urushiol. Reactions can happen from touching other items the plant has come into contact with. However, once your skin has been washed, you cannot get another reaction from touching the rash or blisters. Allergic contact dermatitis reactions can happen 24 to 48 hours after contact. Once a reaction starts, it may take 14 to 28 days to go away, even with treatment.

Nickel, perfumes, dyes, rubber (latex) products and cosmetics also frequently cause allergic contact dermatitis. Some ingredients in medications applied to the skin can cause a reaction. A common offender is neomycin, an ingredient in antibiotic creams.

Treatment depends on the severity of the symptoms. Cold soaks and compresses can offer relief for

the early, itchy blistered stage of a rash. Topical corticosteroid creams may be prescribed. For severe reactions such as poison ivy, oral prednisone may be prescribed as well.

To prevent the reaction from returning, avoid contact with the offending substance. If you and your allergist cannot determine what caused the reaction, your allergist may conduct tests to help identify it.

### **Allergic Contact Dermatitis**

Allergic contact dermatitis occurs when your skin comes in direct contact with an allergen. For instance, if you have a nickel allergy and your skin comes in contact with jewelry made with even a very small amount of nickel, you may develop red, bumpy, scaly, itchy or swollen skin at the point of contact.

Coming in contact with poison ivy, poison oak and poison sumac can also cause allergic contact dermatitis. The red, itchy rash is caused by an oily coating covering these plants. The allergic reaction can come from actually touching them, or by touching clothing, pets or even gardening tools that have come in contact with the oil.

### **Urticaria (Hives)**

Hives are an inflammation of the skin triggered when the immune system releases histamine. This causes small blood vessels to leak, which leads to swelling in the skin. Swelling in deep layers of the skin is called angioedema. There are two kinds of urticaria, acute and chronic. Acute urticaria occurs at times after eating a particular food or coming in contact with a particular trigger. It can also be triggered by non-allergic causes such as heat or exercise, as well as medications, foods, insect bites or infections. Chronic urticaria is rarely caused by specific triggers and so allergy tests are usually not helpful. Chronic urticaria can last for many months or years. Although they are often uncomfortable and sometimes painful, hives are not contagious.

### **Angioedema**

Angioedema is swelling in the deep layers of the skin. It is often seen together with urticaria (hives). Angioedema many times occurs in soft tissues such as the eyelids, mouth or genitals. Angioedema is called "acute" if the condition lasts only a short time such as minutes to hours. Acute angioedema is commonly caused by an allergic reaction to medications or foods. Chronic recurrent angioedema is when the condition returns over a long period of time. It typically does not have an identifiable cause.

### **Hereditary angioedema (HAE)**

Hereditary angioedema (HAE) is a rare, but serious genetic condition involving swelling in various body parts including the hands, feet, face, intestinal wall and airways. It does not respond to treatment with antihistamines or adrenaline so it is important to go see a specialist.

Skin conditions are one of the most common forms of allergy treated and managed by an allergist / immunologist, a physician with specialized training and expertise to accurately diagnose your condition and provide relief for your symptoms.

Most people are bothered by skin irritations at some point in time. These irritations are so common and varied that they are called by different names, which can lead to confusion. When an allergen is responsible for triggering an immune system response, the irritation is an allergic skin condition.

There are several types of allergic skin conditions. An allergist / immunologist, often referred to as an allergist, has advanced training and expertise to determine which condition you have and develop a

treatment plan to help you feel better.

### Hives

Urticaria is the medical term for hives, which are red, itchy, raised areas of the skin. They can range in size and appear anywhere on your body. Most cases of hives are known as acute and go away within a few days or weeks, but some people suffer from chronic hives with symptoms that come and go for several months or years. Your allergist may prescribe antihistamines to relieve your symptoms.

If the cause can be identified, you should avoid that trigger. However, the majority of chronic cases are not related to allergy. Routine testing, such as blood counts or allergy screens, are not recommended as they are unlikely to determine a cause and do not make a difference in treatment strategies.

While related to hives, angioedema is swelling that affects the deeper layers of the skin. It is usually not red or itchy and often involves the eyelids, lips, tongue, hands and feet. Angioedema commonly occurs with hives, but can occur on its own.

Food, drug or insect sting reactions are a common cause of acute hives and angioedema. Viral or bacterial infections can also trigger acute hives. Hives can also be caused by physical factors such as cold, heat, exercise, pressure and exposure to sunlight.

### PREVENTION

#### Healthy Tips

- If you have red, bumpy, scaly, itchy or swollen skin, you may have a skin allergy.
- Urticaria (hives) are red, itchy, raised areas of the skin that can range in size and appear anywhere on your body. Angioedema is a swelling of the deeper layers of the skin that often occurs with hives.
- Atopic dermatitis (eczema) is a scaly, itchy rash that often affects the face, elbows and knees.
- When certain substances come into contact with your skin, they may cause a rash called contact dermatitis.

#### Feel Better. Live Better.

An allergist / immunologist, often referred to as an allergist, is a pediatrician or internist with at least two additional years of specialized training in the diagnosis and treatment of allergies, asthma, immune deficiencies and other immunologic diseases.

By visiting the office of an allergist, you can expect an accurate diagnosis, a treatment plan that works and educational information to help you manage your disease and feel better.

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