

The Tendency to Allergies is Most Often Hereditary

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Abstract

Allergic diseases are chronic non-communicable diseases that significantly affect the quality of life of patients from early childhood to old age. The number of people suffering from allergic diseases has been steadily increasing in the last forty years, and it is expected that the same trend will continue in the coming decades. It is estimated that about 35% of the general population has some kind of allergic disease, and the data that show an extremely rapid increase in the number of people suffering from allergic diseases among children is particularly worrying.

Keywords: Allergy, Immunity, Patients, Children, Health

Introduction

Allergy-immunology nurses focus on the care of patients with chronic allergic conditions [1]. These conditions include asthma, allergic rhinitis, urticaria, and dermatitis. Duties include providing direct patient care and health education and, in most cases, administrative responsibilities like those of an allergy office manager.

Core Skills Needed

- Strong assessment and interpersonal skills [1]
- Ability to work with other members of the health care team
- Excellent organizational skills
- Advanced knowledge in allergy treatment and management, like allergy desensitization therapy

Immune System

The immune system consists of a complex network of cells interacting to protect the body against invasion by foreign substances [2]. The study of the immune system has grown immensely over the past several years, and almost every day brings new findings. More diseases are being attributed a minimum of partly to malfunctioning of the immune system, all of which makes an understanding of how the immune system works in health and disease essential for safe nursing care.

Disorders of the immune system include deficiencies of immune substances and function that affect the body's ability toward off infection (immunodeficiency disorders); abnormal and excessive immunologic response to foreign substances (hypersensitivity disorders, or allergies); and abnormal and excessive immune reaction

to self (autoimmune disorders). Immune disorders are attention of much research and study because they will hold the key to understanding why major illnesses like HIV/AIDS and possibly cancer occur. Autoimmune disorders, which include a large range of illnesses, often affect a particular body system.

The immune response is that the body's action plan devised to combat invading organisms or substances by leukocyte and antibody activity. An antigen is any foreign substance (molecule) capable of stimulating an immune reaction. Most antigens are proteins, but other large molecules like polysaccharides can also function as antigens. Penicillin, although not antigenic by itself, may become antigenic when it combines with a higher-weight molecule, usually a protein (a process called hapten formation; this explains why penicillin reactions occur). If an antigen is one which will be readily destroyed by an immune response, and immunity (the ability to destroy like antigens) results, the antigen could also be remarked as a simple immunogen. If, during the immune reaction, mediating substances are released that cause tissue injury and allergic symptoms, the antigen is termed an allergen. Allergens may enter the body through a range of routes. They'll be ingested (foods like eggs or wheat), inhaled (pollen, dust, or mold spores), injected (drugs), or absorbed across the skin or mucous membranes (poison ivy).

Duty

Duty on the part of an HCP (Health Care Provider) depends on the existence of a provider-patient relationship [3]. An example of a HCP without such a relationship would be a HCP testifying as an expert regarding the mental state of one of the parties during a divorce claim supported the review of past records.

Breach of Duty is that these second component. It's often brought up as liability or negligence. Although states have worded this idea variously, the fundamental premise is that HCPs have a requirement to adhere to the applicable standard of care. They're not required to deliver the highest degree of care possible and that they are entitled to exercise individual judgment. They're required to exercise that degree of reasonable skill and care expected of a reasonable competent practitioner in similar circumstances. Breach of duty/liability must be proven through expert testimony that sets forth the applicable standard and therefore the specifics of the deviation from that standard.

The plaintiff's attorney will first hear of the potential case from facts gleaned from the potential client in an interview. The plaintiff should be engaged during a thorough discussion of what the HCP did wrong. The presence of an LNC (Legal nurse consultants) at this interview may be quite beneficial. Know from the outset that almost all patients seeking the recommendation of an attorney regarding a possible claim believe that compensation depends on the degree of injury suffered and therefore the incontrovertible fact that it happened during the course of health care. Many people believe that if they'd an infection, allergy, or unexpected unpleasant side effect, they're entitled to compensation. Don't believe that each one the elements of a successful claim are present merely because someone is sick or injured. This doesn't constitute liability.

Some clients believe that there's compensation due to them if the doctor was rude or late or didn't return calls. This likewise doesn't constitute liability. They also believe that a subsequent treating physician's utterance of "we never do that there" or "this never should have happened" may be a de facto statement that there's liability. It is not. The first may only indicate that different HCPs do things differently. The second may only be an expression of empathy, meaning that the new HCP believes things could have gone alright except for this unexpected complication or adverse event. Neither of those statements is an indictment of prior care.

Patients

Advanced practitioners can influence groups and individuals by developing programmes to raise awareness, assisting them in acquiring new knowledge and behaviours, and focusing on what's important to them [4]. It's important the patients are involved and consulted to determine what they require. Developing programmes involves conducting a sophisticated health assessment that has physical and mental health, values, attitudes, lifestyle and spiritual beliefs also as details of social circumstances that indicate the extent to which others may influence an individual's behaviour. Existing knowledge and sources of health information also will be included to determine what proportion the individual knows, during this case, about skin cancer, the effects of the sun, methods of sun protection and the way that person accesses information, for instance through health professionals, popular magazines, friends or others.

This assessment will help the advanced practitioner to plan, deliv-

er and evaluate an education programme, setting aims and objectives that specialize in the individual's learning needs and taking into consideration what is achieved within the time available. The education plan will include strategies and resources to assist the patient learn. Planning and delivering such a programme requires effective communication that facilitates the exploration of feelings and attitudes, provision of knowledge and also the practice of skills. The advanced practitioner has to develop a repertoire of education strategies to satisfy the requirements of various groups. For instance, children learn best through play and by imitation and that they tend to possess a brief span. Adults learn best in familiar, non-threatening environments and in response to a perceived need. Older people tend to need a slower pace of learning with repeat demonstrations and procedures that are explained carefully and slowly. People like different media to support learning and therefore the younger population particularly like electronic formats. Whatever materials are chosen, they must be reviewed for his or her suitability to be used with a specific group or individual and will use providing they enhance learning in how. There are many sorts of written, audiovisual and interactive materials which have different uses, advantages and disadvantages. The overall effectiveness of the programme should be evaluated to determine the extent to which learning and changes of behaviour have occurred and whether the programme was cost effective.

Children

As many as 15% to 30% of children today have some type of allergy or involvement of the immune system [2]. Preventing allergies, therefore, could have a serious impact on the health of children. Early prevention can begin with encouraging women to breast-feed in order that infants don't seem to be exposed to cow milk protein. Delaying the introduction of solid food until 6 months old, once thought to reduce the development of allergies, might not be as beneficial as once thought. Delaying solid food because infants' gastrointestinal tracts don't seem to be ready for digestion, however, continues to be a valid reason to delay early feeding. Environmental control to reduce the amount of allergens in a home can drastically reduce allergy symptoms. This could begin when parents choose furniture for a child's room, like eliminating wool blankets, choosing toys carefully, and keeping the room freed from dust. Teach parents to use a minimum of washing compounds so children are exposed to as few chemical products as possible. Avoiding spray products like perfumes and air fresheners and discontinuing cigarette smoking also help. These are sensible rules for parents to follow before hand, instead of looking a head to a child to develop rhinitis or atopic dermatitis then having to put more extreme measures into effect. Latex could be a common substance which causes allergy in children. Avoiding the use of latex gloves for health care procedures can help reduce the incidence of this. Environmental pollutants like exhaust from automobile or ash from forest fires are other triggers for atopic diseases.

Because some families are more prone to allergies than others, some communities have a higher incidence of children with allergies than others. As a result, these communities may have more

services and specialists to treat these children, a situation that develops a “community culture” of allergy acceptance and treatment. Children typically may leave school early for immunotherapy. School cafeterias commonly offer allergy-free foods. In other communities where fewer children have allergies, a child with an allergy is viewed as unique or not typical, so may have additional support.

Allergies are a kind of disorder that typically causes chronic instead of acute symptoms. For this reason, children who develop allergies often have to be encouraged to be vigilant in taking their medicine. For the identical reason, once parents begin a child on an immunotherapy program, they’ll have to be encouraged to continue it. It helps if children and their parents understand how allergic reactions cause symptoms and the way important it’s for them to play a role in their own therapy.

Although it’s probably impossible to keep children with atopic allergies freed from reactions and manifestations of allergies, parents who know of familial allergy patterns can take some preventive steps during this direction. If parents are going to prepare allergy-free foods, make sure they consider the child’s likes and dislikes and think through the child’s weekly intake to make sure the child receives all essential nutrients. If a child eats at school or has a meal prepared a day at a child care center, remind parents to create sure the middle, babysitter, or school dietitian is aware of the child’s allergies. If a child is allergic to wheat products and can’t eat bread for sandwiches, preparing a bag lunch for school could also be a difficult daily problem that only good planning can eliminate.

Priority

The most important priority for nurses is to make sure adequacy of the airway, breathing, and circulation [5]. Keep intubation equipment available for immediate use. Insert an oral or nasal airway if the patient is in danger for airway occlusion but has adequate breathing. Use an oral airway for unresponsive patients and a nasal airway for patients who are responsive. If endotracheal intubation is important, secure the tube firmly and suction the patient as needed to maintain the airway. If the patient has a compromised circulation that doesn’t respond to pharmacologic intervention, begin cardiopulmonary resuscitation with chest compressions.

Teach the patient and family the way to prevent future allergic reactions. Explain the character of the allergy, the signs and symptoms to expect, and measures to perform if the patient is exposed to the allergen. Teach the patient that if shortness of breath, difficulty swallowing, or the formation of the “lump within the throat” occurs, she or he should visit an emergency department immediately. If the allergen may be a medication, ensure the patient and family understand that they have to avoid the various sources of the medication in both pharmaceuticals and available over-the-counter preparations for the rest of their lives. Encourage the patient to notify all health care providers of the allergy prior to treatment.

Provide a whole explanation of all allergic responses and the way to avoid future reactions. If the patient incorporates a reaction to a food or medication, instruct the patient and family about the substance itself and every one potential source. If the patient includes a food allergy, you’ll must include a dietitian within the patient teaching. Encourage the patient to hold an anaphylaxis kit with epinephrine. Teach the patient to administer subcutaneous epinephrine just in case of emergencies. Encourage the patient to wear an identification bracelet in any respect times that specifies the allergy.

Shock

Prevention of anaphylactic shock is one among the first responsibilities of the nurse within the critical care unit [6]. Preventive measures include the identification of patients in danger and cautious assessment of the patient’s response to the administration of medications, blood, and blood products. A whole and accurate history of the patient’s allergies is an important component of preventive nursing care.

The patient care management plan for a patient in anaphylactic shock may include numerous patient problems, depending on the progression of the process. Nursing interventions include administering epinephrine, facilitating ventilation, administering volume replacement, providing comfort and emotional support, maintaining surveillance for recurrent reactions, and preventing and maintaining surveillance for complications. Measures to facilitate ventilation include positioning the patient to help with breathing and instructing the patient to breathe slowly and deeply. Airway protection through prompt administration of prescribed medications is essential.

Measures to facilitate the administration of volume replacement include inserting large bore peripheral intravenous catheters and rapidly administering prescribed fluids. Measures to promote comfort include administering medications to relieve itching and applying warm soaks to skin. Observing the patient for clinical manifestations of a delayed or recurrent reaction is critical. Patient education about a way to avoid the precipitating allergen is important for preventing future episodes of anaphylaxis. Education about a way to recognize and respond to a future episode including self-administration of epinephrine is crucial to prevent a future life-threatening event.

Food Allergy

Food allergies are immune-mediated disorders because of antibodies and hypersensitivity reactions [7]. Up to twenty of the population perceive themselves to suffer from food allergy but only 1–2% of adults have genuine food allergies. The foremost common culprits are peanuts, milk, eggs and shellfish.

Clinical manifestations occur immediately on exposure and range from trivial to life-threatening or perhaps fatal anaphylaxis. Allergic gastroenteropathy has features similar to eosinophilic gastroenteritis, while gastrointestinal anaphylaxis consists of nausea,

vomiting, diarrhoea and sometimes cardiovascular and respiratory collapse. Fatal reactions to trace amounts of peanuts are well documented.

The diagnosis of food allergy is difficult to prove or refute. Skin prick tests and measurements of antigen-specific IgE antibodies in serum have limited predictive value.

Treatment of proven food allergy consists of detailed patient education and awareness, strict elimination of the offending antigen and in some cases antihistamines. Anaphylaxis should be treated as a medical emergency with resuscitation, airway support and intravenous adrenaline. Subsequently patients should wear an information bracelet and be taught to hold and use a preloaded adrenaline syringe.

Nature designed whole foods to deliver perfect nutrition; however, current food production practices greatly disrupt this design [8]. The addition of chemicals, together with refining, processing, and genetic modification, removes many of the core nutrients, resulting in poor-quality foods that do not communicate and provide for the body within the same way as foods occurring in their state. When poor-quality foods are consistently ingested and therefore the body cannot interpret the data from these foods, immune barriers are weakened over time, and also the immune system may begin to attack the food as a threatening invader. When the immune system becomes overstimulated and out of balance from reacting to inappropriate stimuli (like poor-quality food), misdirected inflammation occurs. Inflammation, combined with compromised immune barriers, leads to a large array of symptoms including various presentations of pain, digestive issues, mood problems, and skin eruptions. Persistent ingestion of foods that cause inflammatory reactions perpetuates disease and is destructive to wellbeing. For any health condition, decreasing inflammation within the body through identification and elimination of poor-quality food and therefore the resulting food intolerances and allergies will help correct the underlying dysfunction: inflammation.

EHR

Electronic health records (EHRs) are the main stay of nearly all hospitals [9]. The impetus for transition from a paper to an electronic health record was driven largely by payers (Medicare/Medicaid and Health Maintenance Organizations), quality improvement organizations, and Institute of medicine panels. They were conceived of as an answer to the myriad of limitations inherent in a very paper recording system, mainly inconsistency in content and quality, illegibility, and safety concerns. Additionally to the portability of EHRs, two additional features are particularly successful in improving safety and care quality for older adult patients: computerized provider order entry (CPOE) and clinical decision support systems (CDSS).

CPOE is a central tenet of the EHRs and is a required component as a part of meaningful use. It's defined by the Centers for Medicare and Medicaid Services as "the provider's use of computer

assistance to directly enter medication orders from a computer or mobile device. The orders are additionally documented or captured in a digital, structured, and computable format to be used in improving safety and organization". The intent of CPOE is to improve patient safety via several features. CPOE ensures prescribing providers have access to patients' allergy information at the time of prescribing. It also ensures patients receive appropriate dosages for medications based on weight, renal function, or other clinical situations. For older adult patients, CPOE systems can support providers in avoidance or judicious use of medications that will be potentially inappropriate in older adults. Potentially inappropriate medications are outlined within the Beers Criteria, a comprehensive evidence-based list of medications identified as potentially inappropriate to be used in older adults for a variety of reasons. EHRs that contain alerts for prescriptions of Beers Criteria medications are successful in decreasing or eliminating the use of those medications.

Another valuable aspect of the EHR is that the opportunity to embed CDSS. These systems can support geriatric care in several ways. First, they will provide direction to clinicians regarding what has to be assessed and what evidence-based care should be implemented. Another sort of CDSS involves embedding algorithms into the EHR to synthesize information entered by providers to determine a patient's level of risk for a particular outcome or to support culmination of an evidence-based assessment. The frailty risk score was statistically significantly correlated with in-hospital mortality. Instead of clinicians evaluating discrete pieces of data, the frailty risk score allows for an integrated assessment which will be leveraged to implement an individualized multicomponent intervention strategy.

A patient-centered EHR requires that each one data relating to the patient and also the patient's well-being must be available in the least times and accessible at appropriate locations [10]. Data from all relevant sources must be integrated into a single record including but not limited to demographic data, data associated with health determinants, and risk factors, together with diagnostic and treatment data from all contacts with the health enterprise (e.g., primary care providers; all members of the multidisciplinary health-care team; home care; public or private acute care, long-term care, mental health facilities). This record is likely to take the form of a virtual record and may well be stored in a variety of locations. Initial efforts at exploring such an idea are underway in several countries, although experience with EHRs over large geographic areas and numerous locations across multiple jurisdictions are limited. Initial prototypes or pilot projects are starting to be reported in Germany, Taiwan, Europe, the UK, Australia, and Canada.

A common problem list, a whole drug profile, and patient allergies should be centrally stored, maintained, and accessible. Data must be readily shared among all the providers of care. The patient's record must be a lifetime record, extending before birth to after death. The new EHRs eventually will contain character-based data, image data, waveforms, drawings, digital pictures, motion videos,

and voice and sound recordings. The networks tying these systems together must have a large band width to accommodate the quantity of data, which must be exchanged in real time among providers at diverse locations. Initially, Internet or email correspondence could provide easy linkage among the providers requesting consultation and discussing a patient's care. A clinically rich common medical and health vocabulary whose major purpose is communication must be developed, accepted, and used by all stakeholders. Confidentiality and privacy issues must be adequately supported with patient consent for the sharing of data.

Responsibility

In a perfect world, the nurse's primary and only responsibility is to produce quality care to the assigned patients [11]. The reality of the situation within the facility setting is that the nurse has multiple responsibilities: responsibility to the patient, responsibility to the facility, responsibility to the physician, and responsibility to self. Nurses experience continual conflict among these four responsibilities. This conflict takes many forms. Nurses are taught as students that they must develop high ideals and standards. One among the primary focuses of nursing as a profession is health maintenance and patient education. The facility setting, however, isn't always the best place to express high ideals or to attempt to implement health maintenance and patient education. Nurses have little time to deal with patients individually due to short staffing ratios, shortened hospital stays, and restrictive facility policies that prevent the nurse from closing these important activities. Nursing as a profession contains a strong tradition of humanizing health care through a holistic, personal approach to patient care that includes all the patient's problems and incorporates the patient's family. Yet the health care system tends to place a high value on and reward those nurses who master the new technology, develop more advanced medical skills, and spend less time with patients and their families. Nursing students are taught that they're colleagues with physicians within the provision of take care of patients, yet to some persons the physician's role commands more power and prestige.

The employer-facility's obligations toward the nurses it employs appear to be rather limited. In general, these obligations be two categories: to provide a safe and secure environment for nurses to perform duties and to provide a fair wage. Although these categories will be expanded to include other factors, like health care insurance, time off for maternity leave, hepatitis b vaccination, and so on, the extension of benefits appears more often to be an issue of recruitment and retention of nurses instead of an ethical issue of justice in employment.

All nurses are familiar with the patient's bill of rights. In many facilities, patients are provided with a copy of this document on admission. Although this document isn't legally binding, it does provide some sense that patients are important individuals and recognizes their autonomy within the often impersonal health care system. Additionally, the patient's bill of rights gives patients a feeling that they're "owed" certain elements of care and respect from the institution, additionally because the institution's employees.

Are nurses ever given a nurse's bill of rights after they are hired by a facility, nursing home, or another agency? Most nurses probably don't even know that such a document exists. Just like the patient's bill of rights, the nurse's bill of rights has no legal means of enforcement, but it does outline some fundamental ethical rights for nurses that should be recognized by the facility, nursing home, or other employing agency. Nurses work in extremely difficult circumstances due to their central role in patient care, close contact with families, dominance by the medical professions, and limitations from institutional policies. Yet without nurses to provide the hands-on, 24-hour-a-day care, facilities would don't have any way to deliver their often-advertised services. Nurses must be recognized as the valuable elements of the health care system that they truly are.

Conclusion

Allergy is an inappropriate and undesirable response of human immune system to various environmental factors called antigens or allergens. Allergic reactions and symptoms can be localized and affect only one part of the body or organ. The tendency to allergies or atopic diseases is most often hereditary. Atopy means the tendency of the organism to react in contact with allergens by producing antibodies from the immunoglobulin E class. This tendency is inherited, but it does not mean that some of the allergic diseases will necessarily develop. In addition to hereditary predisposition, the influence of a number of environmental factors is important for the development of the disease, especially those to which people are exposed from the earliest childhood.

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