

Medicinal Herbs and Medieval Healthcare at Skriduklaustur Monastery, East Iceland

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Abstract

Herbs at medieval monasteries were often the sole form of medicine for the ill. Healthcare followed a different system of application than today, but utilized active herbal compounds to relieve symptoms and provide care. This article will examine the ten herbs used with medieval nursing and medical care at Skriðuklaustur (1493-1552) the last monastery established during the Catholic Era in Iceland. (Keywords: Herbs, Iceland, monastery, healthcare, Augustinian monks.)

I. Introduction

In the 15th Century on a small island south of Greenland, a lone Catholic priest rode into the Fljótisdalur Valley to give Last Rites to a dying Icelander. Arriving at the penitent's home, the priest discovered his chalice and paten—the cup and plate in which the bread and wine of Holy Communion is consecrated—were missing. A subsequent search for the vessels in a field below the farm at Skriða found the chalice filled with wine and the paten filled with bread. Considered a miracle, a chapel was built on this site. In 1493, the year of Columbus' second expedition to the New World, a monastery was founded at Skriða by the Augustinian monks (Institute of Gunnar Gunnarsson, 2009). On a more likely note, the farm at Skriða was donated to the monastery by Hallsteinn Þorsteinsson and Cecíla Þorsteinsdóttir prior to 1496, possibly to assure their entrance into the afterlife (Skriduklaustur: Center of culture and history/Founding of the monastery, n.d.)

The Skriduklaustur monastery (1493-1554) was not a cloistered religious community. A decade-long archeological dig, conducted from 2002-2010, discovered the monastery functioned as a hospital and clinic for Iceland's Eastern Fjords. In 1493 the sick, the dying and those needing medical assistance like pregnant women, came to the monks for care (Kristjánsdóttir, 2011).

The monks of Saint Augustine had a mission to serve society: they believed God is in everyone and that the body is a temple to God (Skriduklaustur: Center of culture and history/Hospital and hospice, n.d.). As a Catholic institution Skriduklaustur's monks were obliged to bury those who died in their care. Nearly 200 skeletons were exhumed during the modern excavation at the monastery site: whether indigent or benefactor, Skriduklaustur was the last resting place of these Icelanders, as revealed by the main archeological project (Minjasafn Austurlands, 2009-2010).

Clearly the monastery served a wide range of patients. Evidence suggests those at Skriduklaustur succumbed to congenital disorders, syphilis, leprosy, hydatid disease, dental and periodontal infections, fractures, traumatic injuries, death in childbirth, influenza and tuberculosis. Many were young children. For those not yet born, their ill mothers could pass diseases *in utero* to their child (Kristjánsdóttir, 2011). Other patients had lived into their fifties and sixties before crossing the monk's door for medical assistance. This was "ripe old age" in an era when Iceland was without running water, electricity or antibiotics as we know them today (Gunnarsson, 2009).

West of the church proper was the burial ground. Near the cloister garden, where ten medicinal herbs were grown, nine patients who died of syphilis were buried. Syphilis was a new disease in Iceland, possibly arriving from the Americas (Kristjánsdóttir, 2011).

Pollen analysis of the human bones and the area itself revealed several plants common to the Arctic and other temperate zones desirable for their medicinal properties. The monks cultivated, distilled and formulated these herbs for use with the monastery patients (Kristjánsdóttir, 2008; Larson & Lundquist, 2010). This paper will attempt to look at these plants and their medicinal qualities in the context of medicine in the Middle Ages and its bridges to today.

II. The Progress of Medicine

Whether eaten raw or formulated in other ways such as tinctures, teas or extracts, herbs are able to influence the functions of the human body. Many have properties that contribute to overall health and wellbeing, such as an abundance of vitamins and polyphenols, while others support or induce particular bodily actions such as urinary diuresis or reduction of respiratory tissue inflammation (Ginis, 2011). This was symptomatic treatment: if consistently and carefully monitored, symptom control can allow the body to recover from a non-fatal disease, as anyone who survived a common cold will attest.

Medicine in the medieval era, though, was a combination of faith, theory and perspective. Little was known about the human body and the idea of disease as a punishment from a vengeful god or a trial to be endured prior to the next life was common. This was illustrated during the Black Death, the plague which struck Iceland shortly after 1400 A.D. (Gunnarsson, 2009).

One medieval theory of disease incorporated balancing four Humors: bodily fluids like bile and phlegm, which were thought to control the health of the body. Medieval medicine sometimes included surgeries like trepanning (drilling holes in the skull to allow evil spirits or bad humoral fluids to pass out of the patient) or bonesetting. Wine was used as an antiseptic and some painkillers like opium existed, although the idea of addiction was unknown in the modern sense (British Library, n.d.). Treatment often combined the humoral balance system and prayers to the patron saint of a particular type of suffering, like Saint Lucy and Saint Odile, the patron saints of the eyes and vision (The Foundation of the American Academy of Ophthalmology website).

Definitive knowledge of bodily structure and function was limited; less was known about the origin of disease states in the Middle Ages. Not until the 17th Century, when microbes could be seen by Van Leeuwenhoek's microscope, or when the theory of microbial disease was promulgated by Pasteur and Lister in the 1880's would thinking shift from the humoral balance system to the infection model of disease transmission (Encyclopædia Britannica, 2013; Harvard University Library Open Collections, 2014). The role of microbes, bacteria and vectors of infection was unknown at the Skriðuklaustur monastery, although the monastery's emphasis on a healing environment promoted a space and place in which consistent nutrition and care of the patient could be carried out (Harvard University Library Open Collections, 2014). Herbal tinctures and potions were used to ease symptoms rather than address the cause and cure of various diseases. The idea of humoral balance as conducive to good health was part of a comprehensive system in the Middle Ages, one that also included surgeries, good nutrition and the use of natural remedies like herbs (Kristjánsdóttir, 2010).

Psychiatric disorders had more than their fair share of occult and religious overtones in this epoch, as humoral elements also related to the mood and personality. The idea of chemical imbalance in the brain is a modern concept which emerged with the discovery of psychotropic medicines. Genetic disease is also a modern research area, one that is still evolving (Smith, 2013).

At Skriðuklaustur, examination of skeletal remains suggests hospital patients received symptomatic palliative and nursing care from the monks as well as obstetrical care. About ten herbs were grown in Skriðuklaustur's monastery garden for these uses. Among the ten herb species were "...three not native to the medieval Icelandic flora. These three are *Allium*, *Urtica major* and *Plantage major*, all internationally well-known monastic plants" (Kristjánsdóttir, 2010, p.51). Those herbs not indigenous to Iceland could have been brought there by way of the thriving trade between Iceland and other European countries.

While they do not compare in strength and purity to pharmaceuticals of the modern era, herbal remedies did provide the monks with another working tool to battle sickness in early Iceland.

III. The Herbs

The ten herbs found at the monastery are listed in Table 1 below. The Icelandic names appear on the Skriðuklaustur archeological website (Skriðuklaustur: Center of culture and history/Hospital and hospice, n.d.)

Table 1: Medicinal Herbs at Skriðuklaustur

Latin Botanical name	Icelandic name	English common name
Allium	Laukur	Onion/garlic
Betulapubescens	Birki	Birch
Galiumverum	Gulmadra	Ladies' bedstraw
Juniperuscommunis	Einir	Common Juniper
Plantago major	Grædisúra	Common plantain
Ranunculus acris	Bennisóley	Buttercup
Rhinanthus minor	Lokasjodur	Little yellow rattle, Rattlebox
Sassafras albidium	Steinbrjotur	Sassafras
Thalictrumalpinum	Brjóstagrass	Alpine meadow-rue
Urticadioica	Brenninetla	Nettle

If one looks at the various herbs and their potential properties, overlapping uses are common. Some herbs, like juniper and sassafras, were used sparingly as they could be toxic in high doses (Der Marderosian&Beutler, 2005; Skriðuklaustur: Center of culture and history/Hospital and hospice, n.d.). Other herbs likely worked synergistically, doubling their effects one to the other. Still, co-occurring undesirable compounds in various herbs can influence chemical bioactivity unpredictably; while storage and extraction techniques can induce changes in the herb's medicinal or nutritive activity (Foster & Duke, 1990).

Herbal medicines in therapeutic amounts can influence body systems essential to life or aid in the alleviation of pain, which can increase patient comfort. As such the monks could treat patient symptoms like edema or fever while providing a basis for palliative care, where a symptom might receive treatment even though it was clear the patient would not survive the disease since "Traditional medicine...focus on symptoms rather causes of disease" (Buss & Butler, 2010, p.156).

For example, the herbs alium, nettle, rattlebox and plantain were used for respiratory disorders. Plantain in particular relieves congestion and loosens respiratory mucus, rendering it useful for complaints from colds to pneumonia. Herbs acting on various functions of the kidney, like the induction of diuresis or relief of kidney stones, utilized alium, bedstraw, birch, juniper, nettle, sassafras and plantain to obtain the desired result (Der Marderosian, A. & Beutler, J.A, 2005).

Multiple herb uses were common. Bedstraw, for example, could be given in cardiac conditions to decrease blood pressure and influence kidney function, possibly by diuresis, which then decreases systemic blood pressure. The anti-inflammatory qualities of bedstraw, contained in the active ingredients citric acid and asperuloside made it useful as a skin poultice, fever reducer or with blood and lymphatic infections (D'Amelio, 1999; Foster& Duke, 1990).

Poultices were made of various herbs including juniper, aliums, plantain and buttercup. Birch and bedstraw were given for fever, while plantain seeds were useful as psyllium, a laxative. The astringent properties of the nettle plant made it ideal for respiratory and kidney problems as well as skin poultices, digestive complaints and joint problems like arthritis (D'Amelio, 1999; Foster& Duke, 1990, Gehrmann, Koch, Tschirch, and Brinkman, 2005, Skriðuklaustur: Center of culture and history/Hospital and hospice, n.d.).

Obstetrical use of herbs was necessarily narrower in scope. Half of the herbs raised at Skriðuklaustur had obstetrical uses. Juniper increased uterine contractions, while Vitamin K in plantain could help stem excessive postpartum bleeding. Alpine meadow rue decreased inflammation during lactation. Nettle is a good source of Vitamin A, iron and Vitamin C (Vitamin C facilitates the absorption of iron) and was used to increase the production of breast milk in nursing mothers. Sassafras, toxic in large doses, was used to induce menses, and thus a gynecological herb rather than an obstetrical one (D'Amelio, 1999; Der Marderosian & Beutler, 2005; Skriðuklaustur: Center of culture and history/Hospital and hospice, n.d.).

IV. Modern Medicine

The progress of medical and nursing inquiry using the scientific method has allowed us to look further into the active properties of medicines and their chemical actions on disease states. Early monastic healers had little idea of how herbal properties worked; they simply knew the result if the herb was applied in a certain way at certain strengths.

Today we know far more about the properties of herbs both in medicine and nutrition. While the active ingredients in alliums (garlic and onions) are allicin and alliin, they are also good sources of Vitamins A, B and C, and excellent, tasty supplements in the traditional Icelandic diet of fish, lamb and dairy. Increased glomerular filtration rate in the kidneys and subsequent renal diuresis could be promoted with terpinen-4-ol, a polyphenol antioxidant, found in juniper. Safrole, a compound similar to indomethacin (a non-steroidal anti-inflammatory drug or NSAID) was also present in sassafras. As an anti-inflammatory agent, sassafras was frequently used in medieval times internally for the joints, kidneys and digestive system. Externally sassafras was used as a wound poultice (Der Marderosian & Beutler, 2005). While the Augustinian monks at Skriduklaustur had little knowledge of the precise chemical components, they did know that various herbs, applied judiciously with an eye to their properties, could help a sick person's symptoms to ease.

V. Conclusion

It is tempting to think of the monks of Skriduklaustur and their contemporaries in two ways. Either they were well-intentioned caretakers attempting to heal and comfort the sick and dying as best they could with ingredients at hand, or they were medical practitioners whose intelligence and knowledge, like the fictional Brother Cadfael, bordered on the magical even as it foreshadowed medicine today.

It is more likely monks of this era executed their healing services with some idea of the basics of nursing care and herb use. As a service order, rather than a contemplative one, the Augustinians would be concerned with active engagement in the world around them. Their good works would require they go beyond prayer: learning and teaching their fellow monks to do God's will in caring for those who came to their door.

From the hindsight of history, the monastery at Skrida can seem quaint. In our post-modern world, where antibiotics and medicines of all kinds are supported by robust technology and in-depth scientific inquiry, it is easy to dismiss the efforts of those who have come before us as unenlightened or incorrect. But the herbs and treatments common to a monastery hospital such as Skriduklaustur utilized many active compounds that are part of medicine today, even as they attempted to give balanced, compassionate nursing care to the sick with prayers for those in need.

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