



4-27-2017

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THE EFFECTIVENESS OF AMISH HOME REMEDIES

by

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Advanced Public Health Nursing, University of North Dakota, 2017

An Independent Study

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Master of Science

Grand Forks, North Dakota

May

2017

PERMISSION

Title: The Effectiveness of Amish Home Remedies

Department: Nursing

Degree: Master of Science

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Abstract

Amish people live separately from modern ways, without motor vehicles, electricity, telephones, televisions or computers; relying upon wood burning stoves for heat and cooking; using horse and buggy for transportation. Avoidance of modern medical care is common, with families relying upon knowledge of home remedies, passed from generation to generation. The purpose of this independent study is to answer the question, “What does the research evidence indicate regarding the effectiveness of Amish home remedies?” A literature review was completed using numerous search engines which are listed in the study process. In addition, information is included from a 2015 community assessment of the Amish population in Polk County, MN. The literature showed the frequent use of Amish home remedies and extensive evidence of their effectiveness, especially for treatment of burns and wounds. Furthermore, there is a need for health care provider education regarding home remedies which will result in increased cultural competence and understanding of home remedies. An infographic and PowerPoint presentation are included for use in educating health care providers in Polk County, MN.

Key words: Amish, home remedy, alternative medicine, complimentary medicine, traditional medicine, folk medicine.

Effectiveness of Amish Home Remedies

The Amish population in the United States (U.S.) has grown from approximately 6,000 in 1900 to 275,000 in 2013, with settlements in 30 states and Ontario (Kraybill, Johnson-Weiner & Nolt, 2013). To learn more about the fastest growing rural population, a familiarization, strengths and needs community assessment was completed in May, 2015, involving seven Amish families and eight key informants within Polk County, MN. Polk County is located in north-west Minnesota with three Amish communities settling there in 2007. Although the population has not been formally counted, approximately 400 Amish individuals and 40 Amish families reside in Polk County (Altepeter, 2015).

This recent community assessment and literature review indicated that Amish people in general avoid formal medical care. As a result, local health care providers may be unfamiliar with this unique culture, in particular the Amish routine of caring for a majority of their health ailments at home. Through family interviews and an extensive literature review, it was found that the use of home remedies was common among the Amish. This study will investigate what the research evidence indicates regarding the effectiveness of Amish home remedies.

A vital part of providing holistic medical care includes the knowledge of the Amish family structure, reliance on extended family support and their use of alternative medical care, including vitamins, minerals, massage, chiropractic, reflexology and a wide variety of home remedies.

Purpose

Although evidence regarding the effectiveness of home remedies exists, Health Care Providers (HCP) are often uneducated regarding their use and effectiveness. The Amish population is fairly new to Polk County, MN, increasing the likelihood that local HCP are

unfamiliar with Amish home practices. This study will present the most recent research evidence regarding the effectiveness of home remedies and provide educational materials for local HCP, thereby increasing their cultural competency in the care of Amish patients.

Information on the Amish history, beliefs and culture will be shared with local health care providers, resulting in improved care and communication with Amish patients. The goal of this study is to increase understanding of the Amish community, thereby expanding knowledge and facilitating the interconnection of modern medical care and traditional Amish health practices. The results of the literature review will be used to develop an educational infographic and PowerPoint presentation which will be offered to local health care providers.

Significance

The evidence shows that the Amish people are at higher risk for burns and wounds as a result of their rural lifestyle. The 2015 Polk County Amish community assessment supported this finding, with the Amish adults sharing their home remedies for the treatment of burns, wounds, respiratory infections and many other ailments (Altepeter, 2015). Additionally, the literature review and community assessment emphasized their reliance on family members and Amish men, known as doctors, for their health advice and treatment.

Knowledge of these practices and remedies are an important component of culturally competent health care. Full knowledge of health care practices in the home is vital in effectively treating health problems and injuries. Accordingly, this knowledge supports the use of evidence-based practice, which is vital in successful treatment of illness or injury.

The science and practice of nursing relies on knowledge of unique cultures. Although the Amish people generally avoid formal medical care and hospitalization, nurses will need to

provide care to this population. Ideally, this research will be used in nursing curriculum, promoting holistic nursing care.

Theoretical Framework

The Community-as-Partner model is frequently used in public health work and proven to be an ideal guide for this study. This exemplary framework models a holistic representation of this distinctive culture. The center of the model focuses on the Amish people, surrounded by eleven factors which are unique to their culture: health, social services, communication, economy, recreation, physical environment, education, safety, transportation, police and government (Anderson & McFarlane, 2011).

Assessment of the model's eleven factors surrounding the population provides a complete picture of the community; however for the purpose of this project, seven of the eleven concerns apply to home remedies. Health, communication, economy, physical environment, education, safety and transportation are pertinent as these are the factors that impact the health care choices made by Amish people, including the use of home remedies.

Health

Health is the first factor to consider from the Community-as-Partner model. Amish people are often reluctant to utilize modern medicine, health screenings and vaccinations (Kahn, Demme & Lentz, 2013; Kraybill et al., 2013 and Sharpnack, Quinn Griffin, Benders & Fitzpatrick, 2010), factors which all greatly impact their overall health. For example, when an Amish person becomes ill, he or she will first seek advice from family members, try home remedies and then seek care from "Amish doctors" (Altepeter, 2015). These "doctors" are Amish men in the community who are self-taught and have no formal medical training. Formal health providers are only consulted after traditional methods are exhausted.

Communication

Even after the decision is made to seek outside medical care, obtaining advice and treatment from HCP is impacted by many factors. The first hurdle and an important part of the Community-as-Partner model is communication; hindered by the lack of telephones or computers. Messages are sent by word of mouth, letters, or traveling to a neighbor who allows the use of a phone. Interviews with local health care providers revealed that Amish families frequently arrive without an appointment, hoping that they will be seen. A further challenge with communication is the fact that most Amish families lack a primary health care provider (Altepeter, 2015).

Economy

Economy may result in the avoidance of formal health care and the frequent use of home remedies. According to Kraybill et al. (2013), Amish people are exempt from the Affordable Care Act, and decline Medicare, Medicaid and any other form of insurance. In addition, their income may be restricted to the sale of milk, eggs, produce, flowers and furniture (Altepeter, 2015).

Physical Environment and Safety

An additional focus of the model is the physical environment; closely connected to the physical environment is the concern for personal safety. The literature shows (Kahn et al., 2013; Rieman & Kagan, 2012b) great risks of unintended injury, attributable to the use of fire for cooking and heating, kerosene for light, the lack of shoes during warm months and potentially harmful nails, saws, pitch forks, farm animals and old machinery (Altepeter, 2015).

Education

Education is included in the theoretical framework and a unique part of the Amish culture. On average, ten families share one country school; taught by a young Amish man or woman without a college education. Eighth grade is commonly the highest level of educational achievement in the Amish culture. Additionally, their rural school curriculum lacks science or health courses (Kraybill et al., 2013). The literature indicates a low level of health care literacy, which further impacts their understanding of modern health care (Katz, Ferketich, Paskett & Bloomfield, 2013).

Transportation

A significant difference in the Amish culture is transportation, or the lack of transportation. The Community-as-Partner model includes this factor as a vital part of the framework and especially unique for the Amish people. Without motor vehicles, horse and buggy transportation limits their range of travel. Medical providers are often beyond that distance, resulting in an additional barrier to health care, along with the added financial burden of payment required for non-Amish drivers (Kraybill et al., 2013).

Definitions

Common words used to describe the Amish culture will be clarified, assisting the reader in understanding their meaning. Home remedies describe methods of treating injuries or illnesses at home, passed down from generation to generation and often using natural ingredients. Old Order Amish (OOA) describes the people included in the community assessment and the literature review. Old Order Amish are considered the most conservative of the Amish affiliations, which include Old Order, New Order, Swartzentruber, Byler, Lancaster and Swiss. The Amish affiliation is often named for the founder or the location of the

community (Kraybill et al., 2013). “English” is the word Amish people use when referring to people who are not Amish. The National Center for Complementary and Integrative Health (NCCIH, 2016) defines Complementary Medicine as health practices outside of conventional Western medicine and Alternative Medicine as practices used in place of conventional Western medicine. Integrative Health describes a combination of Conventional and Complementary, with the example of combined care for cancer patients. Complementary Alternative Medicine (CAM) includes the use of home remedies, vitamins, minerals, herbs, chiropractic, reflexology, and massage. “Amish doctors” are Amish men who have no college education and give medical advice and treat illnesses and injuries in the Amish community. Similarly, “Amish dentists” are also Amish men who lack a formal dental education and frequently pull teeth. “Amish herbalists” use herbs and supplements for the promotion of health. Amish burn teams, burn healers or burn dressers are Amish people who have been trained by other Amish people in the natural care of burns. Partial-thickness burns refer to first and second degree burns. Full-thickness burns refer to third degree burns.

Abbreviations

Abbreviations were used for the following terms: Body Mass Index (BMI), Burn and Wound Ointment (B&W), Complementary and Alternative Medicine (CAM), Health Care Provider/s (HCP), Methicillin Resistant Staphylococcus Aureus (MRSA), Old Order Amish (OOA), Traditional Chinese Medicine (TCM) and Vancomycin Resistant Enterococcus (VRE).

Process

A thorough review of the literature was completed, including CINAHL, PubMed, PsycINFO, Health Source, Medline, Primary Search, Sociology Abstracts, ProQuest, Alternate Health Watch, Access Medicine, Academic Search Premiere, Cochrane, Dissertations and

Theses, Dynamed, National Center for Complementary and Integrative Health and National Center for Complementary and Alternative Medicine. The search terms used were the combination of Amish, and home remedy, traditional medicine, complementary medicine and folk medicine. The limits to the search included the years 2009 to present, English language and all ages.

This paper outlines the Amish history, general beliefs, culture, and health care beliefs. This is followed by research on the use of home remedies for the treatment of injuries and burns. The literature review guided the development of implications for nursing practice, research, education and recommendations for further research. An Infographic and PowerPoint were created to educate the target audience of HCP in Polk County regarding the use of Amish home remedies. This increased knowledge will strive to improve the holistic care of the Amish people.

This study was reviewed and evaluated by Dr. Tracy Evanson. Dr. Evanson is a professor at the University of North Dakota and the academic advisor to the researcher.

Background

In order to understand the research evidence in relation to Amish home remedies, it is important to first understand the history of the Amish population in the U.S., along with their beliefs, culture, and health care practices.

History

Amish people originated in Europe and were known as Anabaptists, meaning the belief in adult baptism. This conflicted with the common religious belief of infant baptism and this conflict resulted in violence and murder of approximately 25,000 Anabaptist people between 1527 and 1614. An Amish man, Hans Haslibacher, was beheaded in 1571 and is known today as a martyr (Kraybill et al., 2013). The Anabaptists later became the Mennonites, founded by a

Catholic priest named Menno Simons. The Amish, founded by Jacob Amman in 1693, broke away from the Mennonites. Because of religious persecution, the Amish began traveling as refugees to America in the 18th Century, with all of the current Amish population living in the U.S. and Ontario (Milne, 1993).

Beliefs

Sharpnack, Quinn Griffin, Benders and Fitzpatrick (2011) explored the connections between the spiritual well-being of Amish adults and their self-transcendence. This study reported that the Amish live in the present, are content with their lives and lifestyle, and accept the emotional and physical challenges of life. Using a descriptive, correlational design, this study gathered information from a random sampling of 134 OOA adults (67.9% female, 32.1% male), with an age range from 23 to 80 years, living in Geauga County, Ohio.

Sharpnack et al. (2011) found that Amish people have a strong belief in the power of prayer, with God being in control of every aspect of their lives, including their health. Equally important, the OOA feel that their health is supported by a natural lifestyle, including a healthy diet and hard work. Their spiritual health is supported by quiet meditation, prayer and singing (Sharpnack et al., 2011). Specifically, the Amish have a strong trust in God for their healing, preferring the help of “Amish doctors” and natural remedies. Although the bible does not forbid using modern medical care, the Amish will always begin treatment with home remedies (Hostetler, 1995).

Furthermore, the OOA believe in sadness at birth, because of the difficulties in life on earth, and happiness at death, with heaven as their ultimate goal. To this end, extraordinary medical care to prolong life is not valued, with preference for death at home, surrounded by family (Kraybill et al., 2013).

The Sharpnack et al. (2011) study described the Amish as having “a heightened awareness of one’s mortality or vulnerability.” The authors also stated, “Among the Amish, the belief in a loving God, in control of all aspects of life, may allow for transcendence beyond life’s difficulties in anticipation of the purpose and destiny designed for the individual” (Sharpnack et al., 2011, p. 95).

Gillum et al., (2011) published an ethnographic and qualitative study of 15 Amish adults, age 34 to 74 (mean age of 64) including seven women and eight men, living in three counties in northern Indiana. The primary researcher collected data after spending two years with the Amish community, participating in a variety of social events. The ethnographic design facilitated the exploration of the Amish community in regards to their health beliefs, practices, values and cultural influences on their lifestyle (Gillum et al., 2011).

Notable findings included the description of the Amish as valuing health and believing that health is a gift from God. It is interesting to note that the study subjects expressed the importance of having “a good attitude and a positive perspective.” Specifically, one Amish person shared, “people who are grumpy and grumbling are dissatisfied and are often not healthy” (Gillum et al., 2001, p. 292).

The study subjects (Gillum et al., 2011) shared that they consider home remedies a gift from God, made from plants which are made by God. In contrast, the Amish in this study felt that man-made medicine may do more harm than good, stating “doctors are not taught about nutrition, they just know about drugs” (Gillum et al., 2011, p. 293). Another stated, “Amish herbalist can tell right away what is wrong; medical doctors have to wait for results” (Gillum, et al., 2011, p. 293).

Kraybill's book (2013), "The Amish," described this population as wanting to be healthy, avoiding sickness and injury, valuing nature with a naturalistic view of health, all connected to "the will of God" and natural remedies as fitting in with their faith and connected to "the mysteries of God's intents" (Kraybill et al., 2013, p. 336).

Sharpnack et al. (2011), Hostetler (1995), Kraybill et al. (2013) and Gillum et al. (2011) all agreed that the Amish relationship with God is the basis for their views on health, with God being described as: in control, loving, trustworthy and providing health and home remedies as a gift. All four studies emphasize the importance of home remedies, a natural lifestyle and a naturalistic view of health.

Armer and Radina (2006) investigated the Amish views of health, using a voluntary, snowball sampling of 87 OOA adults who were recruited after a health screening program in a mid-western Amish school. The participants were 52% female, 48% male, and ranged in age from 18 to 78, with the median age of 40. The authors detailed their efforts for insuring that the questions were sensitive and culturally appropriate. The face-to-face interviews included many open-ended questions regarding health and their lifestyle, healthy practices and their perceptions of health, and the support they receive from friends and family (Armer & Radina, 2006). The fact that the study population was recruited following a health screening program may have involved OOA people with a greater interest in their overall health and acceptance of health interventions.

Armer and Radina (2006) reported that many Amish people believe that health outcomes are out of the control of doctors and nurses, relying more on fate and faith, and preferring "natural remedies to complex scientific options" (Armer & Radina, 2006, p. 44). In addition, the OOA were found to rely on family members and community leaders in making health care

decisions. For this reason, it is necessary to communicate with elders and family leaders when planning health programs.

It is important to note the Amish definition of health, revealed in the Armer and Radina (2006) study, which includes “six themes: the importance of being healthy, the ability to work hard, a sense of freedom to enjoy life, family responsibility, physical well-being and spiritual well-being” (Armer & Radina, 2006, p. 48). Sharpnack et al. (2011) similarly emphasized the strong Amish value of hard work and health. In addition, Kraybill, et al. (2013) and Gillum, et al. (2011) stressed the importance of health within the Amish culture.

The Amish often decline modern medicine and depend upon their religious beliefs in making health decisions. Furthermore, studies have shown that some OOA do not fear injury or death, believing in heaven after death (Kraybill et al., 2013; Kahn et al., 2013). The Amish believe in *Gelassenheit*, which an Amish person explained, “If something is supposed to happen, there is nothing you can do to prevent it” (Rieman & Kagan, 2012a, p. 264). Gillum, et al., (2011), further explained, “*Gelassenheit* (spelled differently from Rieman & Kagan) encompasses the very culture of being Amish and affects what they believe and guides all of their actions” (Gillum et al., 2011, p. 290).

Culture

Understanding the unique Amish culture sheds a light on their many reasons for the use of home remedies. This section will explore the Amish in terms of their large families, rural lifestyle, limited transportation, lack of electricity, limited education and multiple languages.

Amish families are consistently large. The book, “The Amish” explained the growth of this population with an assessment of 60 Amish settlements in 17 states, which revealed 2,356 births and 203 deaths, concluding that the Amish people are the fastest growing rural segment of

our country (Kraybill et al., 2013). This rapid growth of their population is further explained by the fact that birth control is rarely practiced. Their children are welcomed and considered gifts from God; “nature’s way, with the blessing of God” (Kraybill et al., 2013, p. 157). “Children are expected and cherished, and those with physical or mental disabilities are considered special gifts from heaven” (Kraybill et al., 2013, p. 194).

Milne (1993) described the majority of Amish families as earning their living on small farms, generally 80 acres in size, with hard work beginning at a young age; children are cleaning the barn or pig pen, caring for babies and younger children, feeding animals, milking cows, gathering eggs, gardening, baking, cooking, canning and laundry. In addition, parents prepare their children for adult work, which includes: homemaking, farming, milk and egg production, gardening, cutting lumber, making furniture and welding. According to Milne (1993), electricity is considered one of the lures of the modern world.

Supporting Milne’s findings, the Altepeter Polk County community assessment (2015) described Amish families as self-sufficient; growing fruits, vegetables, grains and producing their own meat, milk, butter and eggs. Furthermore, hunting and fishing provided important sources of protein. Without electricity and refrigeration, thousands of canning jars were used to preserve fruits, vegetables and meat (Altepeter, 2015).

The Amish lifestyle results in numerous challenges in obtaining health care. As previously stated, horse and buggies are used for local travel and “English” drivers are hired to provide transportation for longer distances. Without electricity, there are no computers, telephones, television or radio, making communication with HCP very difficult. As a result, news travels through word of mouth, letters or Amish newsletters. Several families may share a telephone, in a centrally located small, locked shack, accessible by horse (Altepeter, 2015).

Milne (1993) describes limited formal education as a major difference from the “English” culture. Advanced education is not valued, not encouraged and avoided. Amish teachers lack formal education and are as young as 16, teaching first through eighth grade in small Amish country schools. The traditional Amish curriculum includes arithmetic, the English language, reading, writing, respect and religion, but does not include science, history or health classes (Milne, 1993). In addition, Amish leaders are against home schooling, feeling that there is a need for others to help shape the child’s character (Kraybill et al., 2013, p. 267).

Additional unique parts of the Amish culture are their three languages: Pennsylvania Dutch (“Low German”) spoken at home, German (“High German”) spoken during church services and English which is used when communicating with those outside of the Amish community (Kraybill et al., 2013).

Amish Health Care Practices

It is important to take note of many unique factors that influence the Amish health care practices and promote their frequent use of home remedies: lack of health care insurance, health care decisions, use of Amish doctors and dentists, and avoidance of hospitals and long-term care. Specifically, OOA are less likely to use modern medical care and are more likely to wait before seeking care (Sharpnack et al., 2011).

A major difference in the Amish way of life is their total lack of health insurance: Medicare, Medicaid, Social Security or any other types of insurance. Because of religious objections, the Amish are exempt from the 2010 Patient Protection and Affordable Care Act. It is surprising to note, “in some locations, hospitals compete for Amish patients because they pay cash, bypass insurance regulations, and almost never file malpractice lawsuits” (Kraybill et al., 2013, p. 338). If there are large medical bills, the Amish help each other in various ways.

Similar to the “English” culture, collections and benefit meals are organized. Medical bills are often paid in cash with negotiations for discounts from clinics and hospitals (Kraybill et al., 2013).

Men are the head of the household, making the health care decisions for the family, with the majority of health care concerns resolved using home remedies (Hostetler, 1995). Trinkle agreed that the Amish people rely first on home remedies and then use modern medicine as a last resort (Trinkle, 2016).

Qualitative Amish interviews conducted by Altepeter (2015) described the progression of health care decisions within an Amish family. If home remedies do not resolve the problem, Amish adults will consult with extended family members, Amish neighbors and Amish doctors. An interview with a Polk County Amish doctor (Altepeter, 2015) revealed that it is common practice for Amish doctors to treat many severe ailments, including pneumonia, wounds, severe injuries, even reduction and splinting of fractures. He described creating splints using sticks and forming homemade casts, made from sheet rock and other materials. As a last resort, modern medical care is considered for severe problems, such as heart attack, stroke or displaced fractures (Altepeter, 2015).

Interviews with Amish adults in Polk County revealed that modern dental care is seldom used, with Amish dentists frequently pulling teeth and making dentures. Amish people will occasionally utilize free dental care days. For instance, a free dental day located in Bemidji, MN provided a 13 year-old Amish girl four crowns and 14 fillings, all applied in one day (Altepeter, 2015).

Rieman et al., (2014) also described the unique health care practices of the Amish, who prefer to “take care of their own” and only obtain modern health care in serious situations. “Their

primary preference for natural healing is for holistic and faith-based reasons, but they also avoid costly medical bills by choosing culturally acceptable options” (Rieman et al., 2014, p. e221).

Similarly, Amish elders or those with disabilities are cared for in the home, without the use of nursing homes (Milne, 1993).

Amish Health

It is important to note the many differences between the health of Amish people and non-Amish people. The following studies will indicate that Amish people have lower rates of cancer, less cancer screening, lower rates of heart disease, less tobacco and alcohol use, lower BMI, less obesity, higher levels of physical activity and a higher life expectancy for Amish men. These differences may support the reasons why the Amish use home remedies first and are less likely to seek formal health care.

Amish health care needs, and subsequently their use of home remedies, are impacted by possible differences in their chronic illness rates, compared to non-Amish Americans. Mitchell et al. (2012) published a retrospective study comparing 2,108 OOA from Lancaster County, PA, to 5,079 Caucasian Framingham Heart Study (FHS) participants. The Mitchell et al. (2012) study’s purpose was to evaluate hospital use, mortality and longevity, comparing Caucasian Americans and OOA. The authors noted that the OOA historically had a low utilization of modern health care. The OOA subjects had a much lower hospitalization rate, along with a lower rate of cancer and heart disease, much lower use of tobacco, lower BMI, less abdominal obesity and more physical activity, compared to the FHS participants. The female subjects had no difference in life expectancy, but the OOA men lived on average three years longer than the FHS subjects (Mitchell et al., 2012).

Another interesting finding of the Mitchell et al. (2012) study was that OOA women averaged three times as many children as U.S. Caucasian women, with an average of seven children for each OOA mother. This indicated agreement with the Kraybill et al. (2013) conclusion regarding large Amish families. In addition, the authors correlated the reduced use of modern medical care by the Amish to their lack of insurance, limits in transportation and cultural norms. The authors suggested that further study is needed regarding the lower hospitalization rate for the OOA (Mitchell et al., 2012).

In agreement with the Mitchell et al. (2012) study, an Ohio study conducted by Cuyun Carter et al. (2011) also showed a significantly lower rate of cancer among Amish men and women. This random-sampled, mixed method study included 134 Amish adults (75 households) and 154 non-Amish adults (98 households), all living in Holmes County, Ohio. Conducted from 2004 to 2005, the mean age of the male Amish participants was 52.4, compared to 58.8 for the non-Amish men; 52.9 for the Amish women and 56.8 for the non-Amish women (Cuyun Carter et al., 2011).

The purpose was “to compare food sources, storage, preparation methods, and food intake” (Cuyun Carter et al., 2011, p. 1209). The authors hypothesized that the lower cancer rate among the OOA may have been related to the Amish practice of eating plain foods with a large amount of whole grains, organic garden grown fruits and vegetables; meat, eggs and milk are produced on the farm and food is seldom purchased from grocery stores or restaurants. In addition, Amish people consume less alcohol, which may also alter their risk of certain types of cancer and other chronic diseases (Cuyun Carter et al., 2011).

It is important to note that three studies included in this review (Cuyun Carter et al., 2011; Katz et al., 2010; Reiter et al., 2009) involved the same 134 Amish and 154 non-Amish participants, focusing on different aspects of their lives, with different lead authors.

The same 134 Amish and 154 non-Amish Ohio Appalachian participants were studied by Katz et al. (2010). This study found that the Amish had a lower rate of cancer screening, including less screening for breast, cervical, colorectal and prostate cancers. Although their religion does not forbid health screening, many factors may contribute to this lower rate of screening, including lack of insurance, concern about cost, limited transportation and lack of knowledge. An interesting quote from the study stated, “costly procedures to extend life, such as cancer screening tests, may be rejected because of the associated expense and their perception of modern medicine’s attempt to replace the will of God” (Katz et al., 2010, p. 307).

In addition, Katz et al. (2010) concluded that other factors may lower Amish cancer risk, including lower use of tobacco and alcohol, and more physical activity compared with non-Amish people. Further, the lower rate of cancer screening may be connected to a lower utilization of medical care, correlating with a high use of home remedies in the Amish culture (Katz et al., 2010).

Physical activity is a very important factor when considering the rates of chronic illness. For instance, it is widely accepted that obesity and lack of physical activity, starting in childhood, are major contributing factors in the development of diabetes. To explore this connection, Hairston et al. (2013) compared physical activity and obesity in Amish and non-Amish children, with a hypothesis that Amish children were less likely to be overweight and more likely to be physically active. This anthropometric study involved 270 OOA children, eight to 19 years of age, in Lancaster County, Pennsylvania and 229 non-Amish children age

seven to 19, living in nearby Eastern Shore (ES), Maryland. The ES children were studied in 2002 and the Amish children were studied in 2005-2007 (Hairston et al., 2013).

The Hairston et al. (2013) study found that OOA children were rarely overweight and had a much greater level of outdoor physical activity. The researchers described the Amish children as participating in household and farm chores at a young age, having more outdoor play with siblings and neighbors. The OOA children in the study did not have computers, electronic games or televisions. In comparison, the OOA children frequently walked to school and almost all of the ES children traveled to school by bus or car (Hairston et al., 2013).

Similarly, Esliger et al. (2010) published an anthropometric, comparative and descriptive study, also reporting a greater amount of physical activity for Amish children. Physical activity was tracked in children from four groups; 68 OOA (located in Ontario in 2005), 120 Old Order Mennonites (OOM) (located in Ontario in 2002), 132 rural Saskatchewan (RSK) (studied in 2002) and 93 urban Saskatchewan (USK) (studied in 2002). Although they do not participate in organized sports, this study found that Amish children had 55 more minutes per day of general physical activity, compared to OOM or non-Amish children. This physical activity included farming, manual chores and walking to school. The study showed a large difference in moderate to vigorous physical activity (MVPA), with 91 minutes/day for OOA children, 71 minutes/day for OOM children, 51 minutes/day for RSK children and 58 minutes/day for USK children. Although activity was measured in an objective fashion, the waist-mounted accelerometers could not measure all physical activity, such as swimming, lifting, carrying and cycling. When considering bicycling, the OOA children do not ride bicycles, but the OOM, RSK and USK children do (Esliger et al., 2010).

These studies indicate that several factors may reduce chronic illnesses in OOA people, including greater physical activity among OOA, compared to non-Amish populations (Mitchell et al., 2012; Katz et al., 2010; Hairston et al., 2013 & Esliger et al., 2010), lower levels of obesity (Mitchell et al., 2012 & Hairston et al., 2013), lower rates of tobacco use (Mitchell et al., 2012 & Katz et al., 2010) and lower rates of cancer for OOA have also been found (Mitchell et al., 2012 & Cuyun Carter et al., 2011).

Review of Literature: Effectiveness of Amish Home Remedies

Complementary and Alternative Medicine (CAM)

According to the National Center for Complementary and Integrative Health (NCCIH), 30% of American adults and 12% of American children use CAM. The Amish use of CAM, including home remedies, is supported in several of the studies outlined in this independent study. Natural products are the most commonly used CAM and include herbs, vitamins, minerals and probiotics. Other types of CAM, in order of use in the U.S. include deep breathing, yoga/Tai Chi/Qi Gong, Chiropractic, meditation, special diets, homeopathy, relaxation and guided imagery (NCCIH, 2016).

Several of the reviewed studies supported the increased use of chiropractic care by the Amish. Before seeing a traditional medical provider, the Amish frequently see a chiropractor (Kraybill et al., 2013; Reiter et al., 2009 & Sharpnack et al., 2010).

The Polk County OOA community assessment (2015) revealed frequent use of chiropractic services provided in Fertile, MN. An interview with a registered nurse working at this clinic indicated that all ages of OOA people frequently arrive without appointments, always paying with cash or check. Qualitative interviews with seven OOA families revealed no primary health care providers; these families were more likely to use home remedies and seek help from

the local Amish doctor/chiropractor and an Amish dentist. An Amish man, with no formal medical education, was interviewed and considered by the local Amish community to be a doctor, chiropractor and dentist (Altepeter, 2015). Kraybill et al., (2013) also described the more conservative Amish groups using medical care provided by self-trained Amish doctors, chiropractors and dentists (Kraybill et al., 2013).

A descriptive study published by Reiter et al., (2009) stated that the use of CAM is known to be common with rural Americans, but there had been little study of the Amish and their use of CAM. This study involved 134 Amish adults and 154 non-Amish adults living in Holmes County, Ohio Appalachia, and showed higher Amish use of chiropractic therapy and reflexology, along with more massage and prayers for healing. It is interesting to note that Holmes County, Ohio contains the largest population of Amish people living in the U.S. (Reiter et al., 2009). Likewise, Kraybill et al. (2013) described reflexology as a common practice of the Amish, involving the application of pressure on the feet for the relief of numerous ailments (Kraybill et al., 2013).

The Reiter et al. (2009) study found that both groups (Amish and non-Amish) had a very high use of CAM; 98% of male and 100% of female Amish and 89% of male and 98% of female non-Amish respectively. Since both the Amish and non-Amish participants lived in the same rural area, the authors speculated that both groups lacked health insurance and needed to travel great distances to medical providers, finding these to be factors in the high use of CAM.

Several studies (Cuyun Carter, Katz & Ferketich, 2012; Reed et al., 2015 & Sharpnack et al., 2010) agreed that Amish people frequently rely on herbs to improve their health. Cuyan Carter et al. (2012) and Sharpnack et al. (2010) both found that Echinacea was a frequently used herb.

A large, cross-sectional, face-to-face study of 2,372 OOA adults in Lancaster County, PA was conducted by Reed et al. (2015), evaluating the use of complementary and alternative medicine (CAM). The age range of the participants was 36-62 with a median age of 49. This study found that Amish women had a higher use of CAM, (82.9%), compared to Amish men, (69.9%). Similarly, the Amish adults in the study used supplements 77% of the time compared to conventional medications, which were used 22% of the time. In addition, herbal supplements were used in place of conventional medications (Reed et al., 2015). This finding fits with other studies which found negative feelings of many Amish towards prescription medication, stating concerns that they are not natural and have side effects.

Further qualitative studies conducted in Ohio continued to provide support of the Amish use of CAM. Cuyun Carter et al. (2012) examined 134 Ohio Appalachian Amish adults compared to 154 non-Amish adults regarding their use of aspirin, herbal supplements, enzymes, fiber, minerals and vitamins. This cross-sectional random sample study found that the Amish utilized herbal products at a much higher rate than non-Amish adults living in the same area. For instance, Echinacea was used by 37.5% of Amish women compared to 5.6% of non-Amish women and Garlic was used by 11.1% Amish women compared to 1.1% non-Amish women. In addition, a higher use of nutritional and dietary supplements was found with the Amish. This study stated that enzymes, fiber, herbs, minerals and vitamins were used in greater amounts by the Amish. Specifically, herbs were frequently used, most notably Echinacea, Ginseng, Gingko and garlic with herbs being used to improve immunity and to prevent and treat head or chest colds. This study also found that home use of Aloe Vera was frequently reported for the treatment of bee stings, cuts and insect bites along with tea and peppermint oil used for respiratory illnesses (Cuyun Carter et al., 2012).

Sharpnack et al. (2010) published a descriptive, random sample, correlational study of 134 Amish adults (mean age of 47.91) in Geauga County, Ohio, with the purpose of evaluating the Amish spiritual and alternative health practices. The authors noted that there were few studies on this specific area, correlating this with the Amish reluctance to disclose information to non-Amish researchers. For this study, alternative practices were defined as those outside of traditional medicine: chiropractic, folk remedies, herbal, massage and reflexology (Sharpnack et al., 2010).

In addition, Sharpnack et al. (2010) stated that 40% of all Americans use some sort of alternative health care. In comparison, this study showed a much higher use of alternative health care within the Amish population, with the Amish study participants using supplements 85.7% of the time and herbal and home remedies used 59.5% of the time. The most common supplements included multivitamins, vitamin C, flaxseed and fish oil; the most common herbal remedies were Echinacea and goldenseal which were generally used to improve the immune system (Sharpnack et al., 2010).

Although the number of participants in the Altepeter community assessment was small (seven families), all of the Amish adults listed multiple ailments for which home remedies were used: toothache, sore throat, earache, headache, sore muscles, fever, wounds, rashes, respiratory illness, kidney infection, worms, Lyme disease, bleeding and miscarriage (Altepeter, 2015).

To further support the Amish use of home remedies, a study by Rieman et al. (2014) concluded that home remedies fit with the Amish desire for natural treatments. Since their lives are separate from modern medicine and they have no health insurance; natural treatments are preferred because they are very low in cost (Rieman et al., 2014). The Armer and Radina (2006) study agreed with the Amish desire for natural treatment; the evidence strongly indicated that the

Amish people prefer natural home remedies, rather than modern, scientific options (Armer & Radina, 2006). Main, Williams and Jones (2012) also determined that the Amish prefer home remedies due to the traveling distance to HCP and the lack of health insurance (Main, Williams, & Jones, 2012). Sharpnack et al. (2010) found that 37.3% of their study participants sought the help of a physician “only when required or when natural remedies were not effective” (Sharpnack et al., 2010, p 68).

Unintended Injuries

Relative to the topic of this independent study, Cuyun Carter et al. (2012) found that there was frequent use of “folk remedies”, also known as home remedies, with farming injuries, accounting for 43% of home remedy use, and the most frequent reason to use home remedies.

The community assessment of seven Amish families completed by Altepeter (2015) revealed that unintended injuries were common; wood was burned for heat, cooking, heating water for bathing and canning; kerosene was burned for light, and gasoline for washing machines. Lacking modern safety design, old and often antique farm equipment was used, along with lumber saws, pitch forks and reused, old boards with nails.

Children are at risk to foot injuries because of the lack of shoes in the warm months. A frightening example of foot injuries was revealed during the Polk County Amish community assessment when an Amish mother shared that their six-year-old daughter stepped on a manure pitch fork while running bare foot in the barn. Her foot was pierced nearly through, causing a deep, dirty, painful wound. Using home remedies, her mother cared for the wound three times/day; soaked her feet in Epsom salt water, then applied a homemade wound ointment made from olive oil, garlic, plantain, comfrey and burdock leaves, and packed with rags. Plantain, comfrey and burdock are found growing wild in their yard. She described the wound as

completely healed within three days of home treatment. Another example of an injury occurred when their two-year-old daughter was bathing and hot water was added to the bath, resulting in second degree burns on her lower back and right buttock. Her mother applied the same home remedy ointment and reported that the burn healed rapidly without complication (Altepeter, 2015).

To illustrate differences in unintended injuries among Amish and non-Amish people, Rogers, Horst, Rogers, Lee & Reihart (2013) evaluated recovery following trauma in Lancaster, PA, home to the second largest U.S. Amish community. The authors theorized that the Amish strong social support system and strong work ethic would improve the outcome of trauma. Data from the Lancaster General Hospital Level II trauma center was gathered from 2000 to 2010, including 802 Amish trauma patients out of 18,337 total trauma patients. The study found that Amish patients had better odds of survival and were more likely to be discharged in less than five days. Factors which may support the discharge rate are their lack of health insurance and the strong support systems in place at home. When adjusted for age, injury, physiology and severity, the Amish were 72% less likely to die following trauma, compared to non-Amish. The Amish also had 96% lower odds of an extended hospital stay. According to the authors, this was the first study published comparing Amish hospital stays and mortality after trauma (Rogers, Horst, Rogers, Lee & Reihart, 2013).

Burns

As previously stated, the Amish may be at higher risk of burns related to their lifestyle. A study by Rieman & Kagan (2012) found that Amish children were most often burned by scalding water and the daily use of open flames; especially a danger for igniting the long, loose dress styles that are worn. Although there is a high risk of burns, burn prevention is not taught in

Amish schools (Rieman & Kagan, 2012). Many factors increased the risk of burns including hot fluids used in canning, washing clothes, bathing, making lye soap and butchering meat (Rieman & Kagan, 2012).

Probably due to the high risk of burns, the majority of published research focused on burn healing, specifically treatment using B&W ointment and burdock leaves. The Amish use a wide variety of home remedies for all physical ailments, but research on other home remedies was missing in the published literature.

B&W ointment and Burdock

As a result of this high risk for burns, B&W ointment is purchased at Amish bulk stores and commonly used by Amish people for burn treatment; B&W contains honey, lanolin, olive oil, wheat germ oil, aloe vera gel, wormwood, marshmallow root, comfrey root, white oak bark, lobelia, vegetable glycerin and beeswax (Rieman & Kagan, 2012). This vegetable based ointment mixture is not approved by the Food and Drug Administration (FDA) but some of the ingredients have been used for centuries for many ailments, including asthma, back and joint pain, bronchitis, bruises, breast soreness and muscle injuries (Kolacz, Jaroch, Bear & Pomerene, 2014).

Along with B&W ointment, burns and wounds are often wrapped in burdock leaves, which are a type of thistle plant growing wild. Along with protecting the burn or wound, herbalists consider burdock leaves to be a diuretic and a blood purifier (Kahn et al., 2013).

According to Chan et al. (2011), burdock is a perennial plant found all over the world, with therapeutic qualities used for over 3,000 years throughout Asia, Europe and North America. It is considered to be a health food in the Chinese culture and used as a part of Traditional Chinese Medicine (TCM). In addition, burdock is used for the treatment of eczema, boils,

infections, rashes and sore throats. Studies have shown that the active ingredient in burdock detoxifies the blood and promotes circulation (Chan et al., 2011).

Chan et al. (2011) reviewed numerous studies regarding the effects and benefits of burdock leaves. Their review indicated that the roots of burdock have anti-oxidant and anti-diabetic benefits. In addition, the burdock seeds have been shown to strengthen the immune system and have anti-cancer, anti-diabetes, anti-inflammatory, anti-microbial and anti-viral qualities. “The medicinal use of burdock in treating chronic diseases like cancers, diabetes and AIDS is promising” (Chan et al., 2011, p 252).

Chan et al. (2011) cited numerous studies showing anti-microbial effects against *E. coli* and *Staphylococcus Aureus*. Because of this effect on bacteria, burdock is used in the treatment of tooth and gum disease. TCM utilizes burdock in the treatment of AIDS, cancer and diabetes because the burdock root and fruit have a hypoglycemic effect when used by TCM in the treatment of diabetes. Even so, a common adverse effect of the burdock leaf is contact dermatitis and occasionally an allergic response (Chan et al., 2011).

The combination of B&W and burdock leaves was developed in the 1980’s by an Amish man, John Keim (Kolacz et al., 2014; Main et al., 2012). According to the authors, Mr. Keim stated that God told him to develop this natural method for treating and healing wounds, especially burns. He has trained hundreds of Amish burn healers in two day seminars, which include education on types of burns, infection, dehydration and nutrition. Mr. Keim describes the combination of B&W and burdock as having an analgesic and anti-inflammatory effect (Kolacz et al., 2014).

Kolacz et al. (2014) reviewed 12 studies published between 1995 through 2011 which showed the benefits of burdock leaves; six of the studies found anti-inflammatory benefits, one

analgesic effect and one antibacterial property. Several of the burdock studies were animal studies, including the use of mice, cows, goats and rats. The authors stated that there had been no other studies with the Amish and the use of B&W and burdock leaves (Kolacz et al., 2014).

Kolacz et al. (2014) conducted a small prospective, case series, participatory study of five Amish people suffering first and second degree burns in Holmes County, OH. The participants ranged in age from three to 56, two female and three male. The purpose of the study was to measure pain with dressing changes, incidence of infection and healing times. The burns were treated with B&W and burdock leaf wraps (*Arctium* spp.), a very common Amish home remedy. The authors stated that the Amish prefer this wound care method because it is natural, inexpensive, and accessible, known to eliminate pain and speed healing. B&W is vegetable-based compared to modern burn ointments being petroleum-based (Kolacz et al., 2014).

In Holmes County, “burn dressers” are Amish people, trained in using B&W and burdock leaves. They are volunteers going into homes or the burn victim stays in the burn dresser’s home while receiving care. Nine Amish burn dressers participated in the Kolacz et al. (2014) study and received training from John Keim. The burdock leaves used were organically grown in the wild and not commercially produced. The burn dressers used a consistent dressing change protocol every 12 hours (Kolacz et al., 2014).

In the Kolacz et al. (2014) study, pain drastically decreased from a rating of 10 before the dressing to zero after the application of the B&W and burdock dressings. None of those treated in the study developed infections. Healing times varied from five to 23 days. The location of the burns varied widely: fingers, hands, ears, neck, back, arm, abdomen, legs, feet and wrist, with hands and arms involved in four cases. Since there was no pain associated with this type of dressing change, the authors concluded that there was no psychological trauma associated with

the dressing change. This was an important factor since four of the five participants were children. The authors stated that at that time, there was no other published research on B&W and burdock dressing for burn care and stated that more research was needed on severe burn cases (Kolacz et al., 2014).

Kolacz et al. (2014) concluded that B&W and burdock leaves are an acceptable alternative to modern medical burn dressings, with great benefits of pain relief and lack of infection. The burns were treated consistently with a specific protocol, carefully assessed and documented with photos. The burn study nurses had advanced burn life support training plus training from John Keim, who also trained the nine Amish burn dressers involved in the study. The burn study nurses were not trained herbalists and the participants were paid by the hospital involved in the study.

To illustrate the differences between Amish and modern medical treatment of burns, Kahn et al. (2013) completed a literature review and case report of a 25 year-old Amish man who had 3rd degree burns over 75% of his body from a farming accident caused by the ignition of gasoline vapors. After being transported by helicopter to a burn unit, his family emphasized that this young man would not want extraordinary medical intervention including eschar removal. The family insisted on the use of Amish B&W ointment and wrapping with burdock leaves, which were applied by the family and an Amish healer; an Amish person using natural methods to help in healing of injuries and illnesses (Kahn et al., 2013).

Unfortunately, the Amish traditional burn treatment was unsuccessful after the young Amish man developed a high fever and restricted circulation from eschar, resulting in death 38 hours following his injury. The authors described the extreme ethical dilemma experienced by the medical staff due to their inability to provide the evidence-based care. The authors compared

the insistence on the use of Amish home remedies to the refusal of blood transfusions by Jehovah's Witnesses. At the time of this article, the authors were not aware of any studies regarding the effectiveness of B&W ointment (Kahn et al., 2013).

Amish Burn Ointment (ABO) and burdock leaves were scientifically tested separately by Rieman et al. (2014) to determine their antimicrobial and cytotoxic properties. The testing was conducted at the Engineered Skin Laboratory at the Shriner's Hospital for Children in Cincinnati, OH. This study used the name ABO instead of B&W to describe the same Amish burn ointment. ABO is very inexpensive, costing between \$1.46 and \$3.25 per ounce (Rieman et al., 2014, p. 218). It was noted that there was a lack of scientific evidence on the effectiveness and safety of ABO and very little scientific testing on burdock leaves. The authors also voiced concerns regarding the conditions used to manufacture ABO (Rieman et al., 2014).

During the Rieman et al. (2014) study, the ABO did not grow organisms and was determined to be sterile. Thereupon, detailed testing with numerous types of bacteria was completed. ABO did not produce antimicrobial benefits and did show some inhibited skin cell growth when used in high concentrations. The authors stated that the results "do not provide sufficient evidence to support controlled clinical trials, but without accurate case studies and scientific investigations we have only testimonials of the Amish healers and their community burn teams" (Rieman et al., 2014, p. 222). This study recommended that ABO be used only for minor burns and not deeper, more severe burns because of the difficulty healing deeper burns along with an increased risk of complications (Rieman et al., 2014).

Trinkle (2016) completed an extensive literature review on the benefits of individual ingredients contained in B&W ointment: honey, lanolin, olive oil, aloe vera, wheat germ, marshmallow root, comfrey root, sweet wormwood, white oak bark, Indian tobacco, myrrh,

glycerin and beeswax. Numerous studies supported the benefits of these individual ingredients, but Trinkle concluded that there was a need for additional research on B&W ointment and burdock leaves for the treatment of burns. Trinkle emphasized the importance of collaboration between hospitals and Amish burn healers in the treatment of partial to moderate thickness burns using B&W and burdock leaves (Trinkle, 2016).

Main et al. (2012) conducted a retrospective, cohort study on the use of B&W and burdock leaves for burns with 32 Amish people living in eight states and one Canadian province: Illinois, Indiana, Kentucky, Missouri, New York, Tennessee, Pennsylvania, Wisconsin and Ontario in Canada. The participants were both male and female and ranged in age from 26-79. Information was gathered through a mailed survey. The research revealed little or no pain, rapid healing and minimal scarring. It was reported that children with burns did not cry during the dressing changes (Main et al., 2012).

The Main et al. (2012) study reported new skin growth within 5-17 days and total burn healing within 3-6 weeks, even with severe burns. The burn treatment procedure was done three to four times per day and included cooling the burn with cool water for 15-20 minutes, applying B&W and covering with burdock leaves that had been softened in boiling water, cooled and covered with gauze. If the person had a skin reaction to burdock, there were several substitute leaves used, including chick weed, cocklebur, dandelion, grape, lettuce, plantain and spinach (Main et al., 2012).

In the Main et al. study (2012), skin grafts were seldom required. As an illustration of the success of this treatment, before and after pictures were shown of hands with 2nd and 3rd degree burns from a gasoline explosion. After treatment with B&W and burdock leaves, the burns were completely healed. The authors noted that Amish people treat burns at home but usually seek

formal medical treatment for dehydration, infection, large 3rd degree burns and shock. The authors described collaboration between hospitals and Amish people, incorporating B&W and burdock leaves into their burn treatment (Main et al., 2012).

Many of the studies revealed similar support for the use of B&W, including Kahn et al. 2013; Kolacz et al. 2014; Main et al. 2012 and Rieman & Kagan, 2012. The use of burdock leaves was supported by Chan et al. 2011 and Kolacz et al. 2014. The combination of B&W and burdock leaves was supported by four articles, including Kahn et al. 2013; Kolacz et al. 2014; Main et al. 2012 and Rieman et al. 2014. The issue of ethical dilemmas between hospital care of burns and Amish traditional burn methods was emphasized in the studies of Kahn et al. 2012 and Rieman et al. 2014. The importance of collaboration between hospitals, formal medical providers and Amish people using home remedies was stressed by Main et al., 2012; Rieman, et al. 2014; and Trinkle, 2016. The synthesis of these findings indicated that several recent studies and reviews supported the treatment of burns using A&W and burdock leaves.

Honey

Studies regarding the benefits honey, which is a commonly used home remedy, were reviewed. Extensive studies have found many benefits of honey and various mechanisms of action for wound healing: antibacterial properties, promotions of granulation of new tissues, anti-inflammatory actions, and debriding qualities.

Mandal and Mandal (2011) completed an extensive literature review of 54 articles supporting the benefits of honey in wound healing. Honey has been used for this purpose for literally thousands of years. Aristotle used honey as an eye and wound ointment in 384-322 BC (Mandal & Mandal, 2011).

The literature review completed by Mandal and Mandal (2011) showed that honey had been found to have anti-bacteria properties for a broad spectrum of bacteria, providing protection against infection, drawing out moisture from cells, resulting in the dehydration of bacteria and honey's high sugar content and low pH prevents microbial growth. As antibiotic-resistance increases, the future use of honey may become more important. Honey increases the growth of new tissues and keeps the wound moist with some types of honey producing hydrogen peroxide. In addition, the antibacterial properties of honey vary, depending on the types of flowers used by the bees; Manuka and pasture honey are two types (Mandal & Mandal, 2011).

Jull, Walker and Deshpande (2013) reported that honey was used as an ointment and a drug since 2100-2000 BC. Honey's use as a burn treatment was published in London in 1325. Their systematic review indicated that honey decreased the healing time for partial-thickness burns but can delay the healing time for full-thickness burns needing eschar removal and skin grafting (Jull et al., 2013).

Jull et al. (2015) published a more recent systematic review of the use of honey in treating wounds, with the evaluation of 26 trials involving 3,011 participants. Eleven of the trials evaluated the use of honey in treating burns. The authors concluded that two of the trials involving 992 participants found that partial thickness burns healed 4-5 days faster with the use of honey, compared to conventional dressings. Infected post-operative wounds healed more quickly with honey compared to antiseptics and gauze. Even so, the conclusion was made that it was difficult to determine definitive answers when there are so many types of wounds (Jull et al., 2015). This extensive review showed that the use of honey for the treatment of wounds has been extensively studied and found to be beneficial.

Honey is the first ingredient listed in B&W ointment and has been studied numerous times in the treatment of burns and wounds. Kolacz et al. (2014) reviewed eight randomly controlled trials including 624 subjects. The results showed shorter healing times with the use of honey, but the methods of the studies had issues which limited recommendation for clinical application. The same researchers conducted another systematic review of 12 clinical trials which showed that honey reduced the healing time for partial-thickness burns, but did not reduce healing time for full-thickness burns which needed excision and grafting for healing. The authors noted that comparison between honey and B&W ointment is difficult because B&W contains many more ingredients (Kolacz et al., 2014). The randomly controlled trials reviewed by Kolacz et al. (2014) supported the benefits of honey for the treatment of burns and wounds.

Kahn et al. (2013) also reported that numerous studies have been done on the effectiveness of honey, with 19 of these studies outlined in a Cochrane review. Honey was shown to improve mild to moderate burns but it was determined that some of the studies were poor in quality and did not offer strong enough evidence to guide clinical practice (Kahn et al., 2013). The results of this review indicated that further high quality study was needed.

Cooper (2008) also reported that honey has been effective in killing bacteria, fungi, protozoa and viruses. Three patients with wounds that were contaminated with MRSA were studied; with their wounds previously unhealed after five years of vancomycin treatment. Daily application of honey cleared the MRSA infection but the length of time of the honey treatment was not mentioned. The author stated that further randomized, controlled trials for the use of honey in the treatment of MRSA infections were needed. The author's explanation of the mechanism of action for honey was explained; "Fructose is thought to prevent bacteria from binding to host-cell membrane receptor sites" (Cooper, 2008, p. 48).

Additional support of the use of honey in fighting infection was revealed in a report to the First World Healing Congress, specifically describing the effectiveness of manuka and pasture honey against MRSA and VRE. Manuka was more effective with VRE and the two types of honey were equally effective against MRSA. In addition, honey was described as anti-inflammatory, debriding and promoting granulation. This study found that most wounds cleared within one week with no adverse effects. “Honey is different, as it has an excellent track record over 4,000 years of usage as a wound dressing” (Allen, Hutchinson, & Molan, 2000, p. 1).

Molan and Rhodes (2015) conducted an extensive review, finding 35 randomized controlled trials involving 3,655 individuals, supporting the use of honey in the treatment of wounds. Honey was considered a biologic wound dressing and Manuka honey from Manuka trees was found to be most effective. Honey was successful in treating any type of wound in any stage. The acidity of the honey increases the release of oxygen from hemoglobin and the high level of osmolarity draws fluid from the wound. Honey stimulates the immune response and debridement, decreases inflammation, increases tissue growth and wound repair. Studies have shown effectiveness against many types of bacteria including Enterococci, Escherichia coli, Klebsiella oxytoca, Pseudomonas aeruginosa, Staphylococci aureau and Streptococci. Studies have not found any development of bacterial resistance from honey. Before use in wounds, it was recommended that honey be sterilized with gamma-irradiation to kill bacterial spores (Molan & Rhodes, 2015).

Comfrey

Comfrey is also used in many Amish home remedies, grows wild outdoors and is an ingredient in B&W ointment. Use of comfrey dates back to 50 AD and has been used to treat

inflammation, bone fractures, bruises, hemorrhoids, joint and muscle pain and sprains (Frost, MacPherson & O'Meara, 2013).

Giannetti, Staiger, Bulitta and Predel (2010) compared comfrey root extract and a placebo with 120 people, in a double-blind, five day, randomized control trial. This German study was conducted on an evenly divided group of men and women, age 18-60 with a mean age of 36.9. The subjects had acute lower and upper back pain. The comfrey root-extract reduced pain within one hour in 95.2% of the cases, compared to 37.8% using the placebo. The comfrey root was found to be fast-acting and potent (Giannetti et al., 2010).

The use of comfrey root ointment was also researched by Grube, Grunwald, Krug and Staiger (2007) in a German, random, double-blind, placebo-controlled study of 220 adults with painful osteoarthritis of the knee. Comfrey root ointment was applied to the knees three times per day for three weeks. Of those treated with the comfrey ointment, 77.3% reported pain relief compared to 13.6% of the placebo group. The authors described the comfrey ointment as being significantly superior and note that several other clinical trials have shown comfrey to be effective for joint and muscle pain and sprains. Comfrey has been found to have analgesic, anti-inflammatory and granulation promoting properties. The authors noted that comfrey has been used for hundreds of years for many ailments, including fractures and wounds (Grube et al., 2007).

Aloe Vera

Aloe Vera is also an ingredient in B&W ointment and frequently used in the treatment of burns. Grown in tropical, hot, and dry climates, Aloe Vera has been used for thousands of years. Maenthaisong, Chaiyakunapruk, Niruntraporn and Kongkaew (2007), published a systematic review of controlled clinical trials which studied the use of aloe vera in burn treatment. Four

studies with 371 total subjects met the criteria for review, including two studies from Thailand, one from India and one from China. When compared with control groups, Aloe vera was shown to shorten first and second degree burn healing time by 8.79 days. Increased epithelialization and higher rates of success for healing were found. The authors noted that this was the first systematic review of aloe vera and burn healing and recommended further well-designed trials (Maenthaisong et al., 2007).

Interpretation of the Evidence

After an extensive literature search for research evidence showing the effectiveness of Amish home remedies, the determination was made that there is adequate evidence regarding the Amish treatment of burns. Because of their unique culture and lifestyle, burns are a major risk and common cause of unintended injury. The most common and consistently used home remedy is the combination of B&W ointment and burdock leaf wraps. The fact that B&W was formulated by an Amish man strengthens the Amish trust and use of this product. As previously covered, the Amish people in general are hesitant to use modern medicine, especially prescription medication, citing the many possible side effects, adverse effects, and cost.

Numerous studies noted many benefits for the use of B&W ointment wrapped with burdock leaves. The combination of this ointment and burdock leaves was determined to be: inexpensive (Rieman et al., 2014), analgesic (Kolacz et al., 2014; Main et al., 2012), promoting circulation (Chan et al., 2011; Kolacz et al., 2014), anti-inflammatory (Chan et al., 2011; Kolacz et al., 2014), and antimicrobial (Chan et al., 2011; Rieman et al., 2014).

Honey is also a commonly used home remedy for wounds, including burns. This literature review found a vast amount of evidence supporting the benefits of honey in the healing of wounds. Honey has been used for thousands of years for many medicinal purposes and is

readably available and inexpensive. The research studies have shown many benefits for wound healing (Jull et al., 2013; Kolacz et al., 2014), granulation of new tissues (Allen et al., 2000), prevention of bacterial growth (Cooper, 2008; Jull et al., 2015; Mandal & Mandal, 2011), and reduction of inflammation (Molan & Rhodes, 2015).

Also an ingredient in A&W ointment, comfrey has been used for centuries in the treatment of many ailments, including wound care (Frost et al., 2013). Reduction in pain, anti-inflammatory actions and promotion of granulation were supported through the research of Giannetti et al. (2009) and Grube et al. (2007). Qualitative interviews with Amish adults in Polk County revealed that comfrey is often utilized in home remedies, grows wild in their yards, thereby being free of charge and considered natural (Altepeter, 2015).

Also used for thousands of years (Maenthaisong et al., 2007), aloe vera is an additional ingredient in A&W ointment. Studies have been published that support the increase in epithelialization and decreased healing times after the application of aloe vera (Maenthaisong et al., 2007).

Discussion

Although there is extensive evidence supporting the Amish care of burns, many other home remedies were reported during qualitative interviews with seven Amish families in Polk County (see appendix A). The literature review for this study did not uncover any published research regarding other ailments requiring home remedies: headache, earache, toothache, sore throat, sore muscles, fever, rash, poison ivy, respiratory infection, croup, Lyme disease, bleeding, and worms.

One of the most interesting home remedies revealed during the Polk County Amish community assessment was “pneumonia salve”, containing: turpentine, vinegar, homemade lye

soap, lard and salt. These common Amish ingredients were stored in a jar and applied to the chest of a person suffering from respiratory symptoms, which were described as pneumonia. The chest is then wrapped with warm towels and the ill person is held upright while large amounts of phlegm are expectorated. A similar home remedy, “lung formula”, contained: hot pepper, cloves, butterfly weed, pleurisy root, wild ginger and catnip. This was also applied to the chest and wrapped with warm towels (Altepeter, 2015). Since pneumonia and other respiratory infections are life-threatening, research on the effectiveness of respiratory home remedies would be very beneficial.

Implications for Nursing Education

Nursing curriculum commonly stresses the importance of providing culturally specific care, with the rural population accounting for many unique cultures. This is true when considering the curriculum at the University of North Dakota College of Nursing and Professional Disciplines, which stresses the importance of providing excellent nursing care for rural populations.

Kraybill et al. (2013) noted that the Amish population is the fastest growing rural group in the U.S. Trinkle (2016) added to this fact; emphasizing the rapid growth of the Amish population and the importance of HCP understanding of their background, cultural, and health care beliefs, especially in the treatment of burns (Trinkle, 2016). These findings emphasize the importance of education on the rural Amish population, thereby supporting the provision of culturally specific care for this unique rural culture.

Gillum et al. (2011) stressed the need for improvement of HCP knowledge and understanding of the impact of culture on the provision of health care. Sharpnack et al. (2010) specifically recommended improvement in Nurse Practitioner education, including curriculum

regarding the Amish and their frequent use of spiritual and alternative health practices, resulting in culturally competent, holistic and “person-centered care” (Sharpnack et al., 2010, p 71).

Implications for Nursing Research

Research focused on the Amish population presents many challenges; their rural location, lack of telephones or computers, lack of motor vehicles, and their common reluctance of interaction with the non-Amish community. Building long-term relationships, especially with Amish leaders, Bishops and Amish doctors, will facilitate the research process. Researchers who interacted during Amish activities reported greater success in recruiting research participants. Examples of Amish activities for possible interaction include farmer’s markets, locations for the sale of Amish furniture and other products, and purchasing items from Amish bulk stores. As relationships develop, other possible interaction opportunities include: Amish school programs, singings, funerals and weddings. Attending these functions would only be appropriate if a close relationship has been developed.

An important factor to consider when conducting research with the Amish is the male role as the primary decision-maker. Sharpnack et al. (2010) stressed a need for further study on the gender response differences for the Amish people. During the Polk County community assessment, it was noted that the male and female heads of the household preferred to be together during interviews. The female (mother) was generally quiet, compared to the male (father), who did most of the talking. Scheduling a time to interview both parties is very challenging due to the busy activities of their day. Men spend most of the day outdoors, working with animals and crops, and the women spend most of their time working on a multitude of household and garden work.

Sharpnack et al. (2010) encouraged further research on various Amish communities in other parts of the U.S. Much of the published Amish research has been completed in Ohio and Pennsylvania, locations of concentrated Amish populations. Kraybill et al. (2013) noted that Holmes County, Ohio has the highest concentration of approximately 32,000 Amish people, and the location of many Amish research studies. Kraybill et al. (2013) further stated that the Amish are located in 30 U.S. states and one Canadian province (Ontario). Opportunities for research in other states with Amish settlements include: Arkansas, Minnesota, Iowa, Illinois, Kentucky, Missouri, Maine, Nebraska, South Dakota, Indiana, Kansas, Florida, Montana, Texas, New York and Virginia (Kraybill et al., 2013).

Gillum et al. (2011) stressed the need for further research on Amish cultural components which are vital when developing Amish educational materials. Some factors to consider include avoiding photographs of Amish people and considering their 8th grade education when developing the text. Educational materials need to acknowledge their use of natural remedies, blending these with modern medical interventions.

An additional area of further research is use of honey in wound care. As antibiotic-resistant bacteria increases, the future use of honey may become more important (Mandal & Mandal, 2011). Although the literature strongly supports the effectiveness of honey, specific study regarding a variety of bacteria would be beneficial.

Implications for Nursing Policy and Practice

Holistic Care

Sharpnack et al. (2011) described the importance of “providing holistic nursing care, nurses serving the Amish community should attend to the spiritual as well as physical dimensions” (Sharpnack et al., 2011, p. 96). Furthermore, “integrating spirituality and

alternative healthcare practices in the delivery of nursing care would support a holistic belief model where the mind, body, and spirit are entwined” (Sharpnack et al., 2010, p. 71). Sharpnack et al. (2010) also stressed person-centered, holistic and culturally competent care of Amish patients. Maintaining this level of nursing practice requires staff education, training and readily available assessment tools to promote this type of nursing care.

Health History

It is vital for electronic health records to include cultural factors when documenting patient histories and health concerns. When taking a health history, it is important to include the use of commonly used alternative or complementary home treatment (Gillum et al., 2011).

Sharpnack et al. (2010) recommended that HCP initiate conversations about Amish home remedies in a non-judgmental and non-threatening manner. When taking a health history, Reed et al. (2015) stressed the importance of HCP assessing the use of supplements, especially herbals when prescribing or recommending interventions. Education on medications, interactions with herbal supplements and possible medication side effects are important for all patients, in particular Amish people, who may not be taking their prescribed medication.

Health Care Decisions

Since it is common for the Amish man to be the health care decision maker, it is important to have their involvement in planning for care. According to Armen and Radina (2006) the Amish also rely on family members and community leaders in making health care decisions. For this reason, they recommended communication with elders and family leaders, before planning health promotion programs in the Amish community.

Trust

The Sharpnack et al. study (2010) found reluctance from the Amish people in disclosing information to non-Amish researchers. Their study indicated that 87.2% of Amish adults in their survey avoided disclosing their alternative health practices to formal medical providers, stating that medical providers do not believe in or understand their practices. Likewise, the Amish stated that health care providers treat, not cure and have concerns that prescribed medications have many side effects (Sharpnack et al., 2010). This provides further emphasis on the importance of building therapeutic relationships with Amish individuals as well as their family. This may be a challenge when the Amish lack a primary health care provider and often avoid formal medical care.

An interesting survey finding from the Main et al. (2012) study showed that the Amish were reluctant to reveal their burn home remedies, with the example given of an Amish person removing their B&W and burdock dressing and reapplying the prescribed dressing before their follow-up medical appointment. Some of the Amish relayed their desire for greater acceptance of this home remedy by medical providers (Main et al., 2012). Building trust and promoting therapeutic communication may reduce this reluctance in disclosing home practices.

CAM

Cuyun Carter, et al. (2012) and Reiter et al. (2009) stressed the importance of evaluating the use of supplements when planning for care and health promotion efforts. Sharpnack et al. (2010) also emphasized a great need for increased HCP education on CAM, especially with the Amish population. This involves increasing cultural competence, with HCP striving to learn and understand folk medicine and home remedies. Kolacz et al. (2014) concluded that nurses

working in communities with Amish residents need to be aware of Amish burn care and monitor the use of B&W and burdock leaves.

Educational Materials

Health Care facilities have many factors to consider when developing educational materials for this unique culture. Specific drawings of Amish people need to be used instead of Amish photos and the reading level must match their eighth-grade education. It is important that materials incorporate their lifestyle, dietary preferences and physical activity.

Low Cost

The lack of health insurance adds to the challenges of paying for formal health care. Reiter et al. (2009) noted that their rural Amish and non-Amish study participants were often uninsured and needing to travel long distance for health care, resulting in a high use of CAM for both groups. Because of this, Reiter et al. (2009) urged HCP to consider these factors when ordering medical tests and scheduling follow-up appointments. Sharpnack et al. (2010) recommended low-cost options to supplement Amish home remedies and spiritual practices. HCP need to consider cost and advocate for low cost medical treatment, using high-cost care as a last resort. Amish people may decline formal medical treatment and rely upon their inexpensive home remedies.

Conflicts between Modern and Amish Ways

Although Kahn et al. (2013) assessed one individual, a young Amish man who died of third-degree burns, their study revealed the conflicts between modern burn care protocol and natural methods, which are preferred by the Amish people. Further study would be beneficial in exploring this ethical conflict and the possibility of hospitals becoming more flexible and

accepting of the Amish natural healing methods. The Amish people may have a more positive view of modern medicine if they feel that their culture is better understood and valued.

Rieman et al. (2014) and Kahn, et al. (2013) both noted the ethical dilemmas and discomfort health care providers faced when Amish patients requested burn ointment and burdock leaves. They found that CAM was seldom used in U.S. hospitals; formal health care providers lacked knowledge and scientific evidence of Amish remedies. These hospital providers relied on evidence to guide their standards of care. Despite the lack of scientific evidence for the safety and effectiveness Amish burn ointment, Amish people continued to routinely practice their home remedies for burn care while in the hospital (Rieman et al., 2014).

Reiman et al. (2014) also noted that B&W ointment and Amish burn teams collaborated with some hospitals when dealing with severe burns; the hospital monitored for dehydration and infection. This resulted in the integration of Amish natural healing and modern medicine. This cooperation built trust and respect, which were found to be vital when caring for the Amish patient (Rieman et al., 2014). Trinkle (2016) stated that collaboration between Amish remedies and modern care improved the level of cultural care within hospitals, “allowing conventional and natural medicine to work in harmony” (Trinkle, 2016, p. 86).

Summary

Living within the Amish culture is similar to going back in time to the 19th century; without electricity, refrigeration, indoor plumbing, modern stoves, dish washers, washers and driers, motor vehicles, telephones, cellular phones, computers, television, radio or modern farm equipment. In addition, it would be considered very unusual for a non-Amish family to have 15 children, but this is the goal for many Amish families. They welcome all of the children they are blessed to receive; many born in their own homes. Many people in modern society take

hundreds of pictures with their cell phones and look into a mirror many times a day, compared to Amish people who have no photographs or mirrors. Amish people generally live in simple and plain homes, while modern people strive to have the most beautiful yard and home in the neighborhood. Many other characteristics of the Amish culture are unique: language, religion, church services, clothing, food and strenuous manual labor. Our medical professionals study for many years in universities, compared to Amish chiropractors, dentists and doctors, who are self-taught with an eighth-grade education.

These cultural differences impact their health care; the Amish wish to care for their own health ailments, using inexpensive and natural home remedies. These families often do not have a primary health care provider, thus lacking that long-term relationship which promotes continuity of care. Modern medical care, especially hospital care is considered only as a last resort.

All of these factors present challenges for HCP who may seldom see Amish people. Without a long-term, consistent, therapeutic relationship established, obtaining a health history and formulating a plan of care can be very challenging. This situation can be alleviated by the following actions: include education on the Amish culture in health-related educational curriculum, include Amish cultural information in staff education for HCP, include assessment of cultural factors within electronic health records, develop specific Amish educational materials, educate HCP on Amish home remedies and other uses of CAM, and educate HCP on common foods, physical activity and other aspects of the unique and interesting Amish culture.

References

- Allen, K.L., Hutchinson, G., & Molan, P.C. (2000). The potential for using honey to treat wounds infected with MRSA and VRE. *First World Wound Healing Congress. Melbourne, Australia*. Retrieved from <http://www.klinion.nl/files/files/The%20potential%20for%20using%20honey%20to%20treat%20wounds%20infected%20with%20MRSA%20and%20VRE.pdf?phpMyAdmin=e45916cab41b966193627d0ad8837577>
- Altepeter, S. R. (2015). [Community Assessment of the Amish Population in Polk County, Minnesota]. Unpublished raw data.
- Anderson, E. T., & McFarlane, J. (2011). *Community as partner, theory and practice in nursing*. (6th ed.). Philadelphia, PA: Lippincott Williams & Wilkins.
- Armer, J. M., & Radina, M. E. (2006). Definition of health and health promotion behaviors among Midwestern Old Order Amish families. *Journal of Multicultural Nursing & Health, 12*(3), 44-53. Retrieved from <http://docshare01.docshare.tips/files/25855/258553532.pdf>
- Chan, Y., Cheng, L., Wu, J., Chan, E., Kwan, Y., Lee, S. M., Leung, G.P., Yu, P.H., & Chan, S. (2011). A review of the pharmacological effects of *Arctium lappa* (burdock). *Inflammopharmacology, 19*, 245-254. doi:10.1007/s10787-010-0062-4
- Cooper, R. (2008, January 23). Using honey to inhibit wound pathogens. *Nursing Times, 104*(3), 46-49. Retrieved from <https://www-nursingtimes-net.ezproxy.undmedlibrary.org/using-honey-to-inhibit-wound-pathogens/573427.article>

- Cuyun Carter, G. B., Katz, M. L., Ferketich, A. K., Clinton, S. K., Grainger, E. M., Paskett, E. D., & Bloomfield, C. D. (2011). Dietary intake, food processing, and cooking methods among Amish and non-Amish adults living in Ohio Appalachia: Relevance to nutritional risk factors for cancer. *Nutrition & Cancer*, 63, 1208-1217.
doi:10.1080/01635581.2011.607547
- Cuyun Carter, G.B., Katz, M.L. & Ferketich, A.K. (2012). The use of daily aspirin, nutritional supplements and alternative medicine among Amish and non-Amish living in Ohio Appalachia. *Nutrition and Cancer*, 64, 911-918. doi:org/10.1080/01635581.2012.714046
- Esliger, D. W., Tremblay, M. S., Copeland, J. L., Barnes, J. D., Huntington, G. E., & Bassett, D. J. (2010). Physical activity profile of Old Order Amish, Mennonite and contemporary children. *Medicine & Science in Sports & Exercise*, 42, 296-303.
doi:10.1249/MSS.0b13e3181b3afd2
- Framingham Heart Study. (2016). *History of the Framingham Heart Study. A project of the National Heart, Lung and Blood Institute and Boston University*. Retrieved from www.framinghamheartstudy.org
- Frost, R., MacPherson, H., & O'Meara, S. (2013). A critical scoping review of external uses of comfrey (*Symphytum* spp.). *Complimentary Therapies in Medicine*, 21, 724-745.
doi:10.1016/j.ctim.2013.09.009.
- Giannetti, B. M., Staiger, C., Bulitta, M., & Predel, H. G. (2010). Efficacy and safety of comfrey root extract ointment in the treatment of acute upper and lower back pain: Results of a double-blind, random, placebo controlled, multicenter trial. *British Journal of Sports Medicine*, 44, 637-641. doi:10.1136/bjism.2009.058677

Gillum, D. R., Staffileno, B. A., Schwartz, K. S., Coke, L., Fogg, L., & Reiling, D. (2011).

Cardiovascular disease in the Amish: An exploratory study of knowledge, beliefs, and health care practices. *Holistic Nursing Practice*, 25, 289-297.

doi:10.1097/HNP.0b013e318232c58d

Grube, B., Grunwald, J., Krug, L. & Staiger, C. (2007). Efficacy of a comfrey root (*Symphyti offic. radix*) extract ointment in the treatment of patients with painful osteoarthritis of the knee: Results of a double-blind, randomized, bicenter, placebo-controlled trial.

Phytomedicine, 14(2007), 2-10. doi:10.1016/j.phymed.2006.11.006

Hairston, K. G., Ducharme, J. L., Treuth, M. S., Hsueh, W., Jastreboff, A. M., Ryan, K. A., & Snitker, S. (2013). Comparison of BMI and physical activity between Old Order Amish children and non-Amish children. *Diabetes Care*, 36, 873-878. doi:10.2337/dc12-0934

Hostetler, J. A. (1995). *The Amish*. Scottsdale, PA

Jull, A. B., Cullum, N., Dumville, J. C., Westby, M. J., Deshpande, S., & Walker, N. (2015).

Honey as a topical treatment for wounds. *Cochrane Database of Systematic Reviews*, 3, 1-130. doi: 10.1002/14651858.CD005083.pub4.

Jull, A. B., Walker, N., & Deshpande, S. (2013). Honey as a topical treatment for wounds.

Cochrane Collaboration, 2, 1-95. doi: 10.1002/14651858.CD005083.pub3

Kahn, S.A., Demme, R.A., & Lentz, C.W. (2013). Mortality after treating severe burns with Amish traditional home remedies: A case report, literature review and ethical discussion.

Burns, 39(2013), e13-e16. doi.org/10.1016/j.burns.2012.09.011

Katz, M., Ferketich, A., Paskett, E., & Bloomfield, C. (2013). Health literacy among the Amish: Measuring a complex concept among a unique population. *Journal of Community Health*, 38, 753-758. doi:101007/s10900-

- Katz, M. L., Ferketich, A. K., Paskett, E. D., Harley, A., Reiter, P. L., Lemeshow, S., & Bloomfield, C. D. (2010). Cancer screening practices among Amish and non-Amish adults living in Ohio Appalachia. *Journal of Rural Health, 27*, 302-309. doi:10.1111/j.1748-0361.2010.00345.x
- Kolacz, N. M., Jaroch, M. T., Bear, M. L., & Pomerene, J. (2014). The effect of B&W (Burns and Wounds)/burdock leaf therapy on burn-injured Amish patients. A pilot study measuring pain levels, infection rates and healing times. *Journal of Holistic Nursing, 32*, 327-340. doi:org/10.1177/0898010114525683
- Kraybill, D. B., Johnson-Weiner, K. M., & Nolt, S. M. (2013). *The Amish*. Baltimore, Maryland: The Johns Hopkins University Press.
- Maenthaisong, R., Chaikunapruk, N., Niruntraporn, S., & Kongkaew, C. (2007). The efficacy of aloe vera used for burn and wound healing: A systematic review. *Burns, 33*, 713-718. doi:10.1016/j.burns.2006.10.384
- Main, M. E., Williams, D., & Jones, M. S. (2012). Treatment of burns with burns & wounds (B&W) ointment and leaf therapy. *Journal of Alternative and Complementary Medicine, 18*, 109-111. doi:10.1089/acm.2011.0416
- Mandal, M. D., & Mandal, S. (2011). Honey: Its medicinal property and antibacterial activity. *Asian Pacific Journal of Tropical Biomedicine, 1*, 154-160. doi:10.1016/S2221-1691
- Milne, D. (1993). *The Amish of Harmony* (4th ed.). Rochester, Minnesota: Davies Printing Company.

- Mitchell, B. D., Lee, W., Tolea, M. I., Shields, K., Ashktorab, Z., Magder, L.S., Ryan, K.A., Pollin, T.I., McArdle, P.F., Shuldiner, A.R. & Schaffer, A.A. (2012). Living the good life? Mortality and hospital utilization patterns in the Old Order Amish. *PLOS ONE*, 7(12) 1-7. doi:10.1371/journal.pone.0051560
- Molan, P. & Rhodes, T. (2015). Honey: A biologic wound dressing. *Wounds*, 27, 141-151. Retrieved from <http://www.woundsresearch.com/article/honey-biologic-wound-dressing>
- Natarajan, S., Williamson, D., Grey, J., Harding, K.G., & Cooper, R.A. (2001). Healing of an MRSA-colonized, hydroxyurea-induced leg ulcer with honey. *Journal of Dermatological Treatment*, 12 (1), 33-36. <http://dx.doi.org/doi.org.ezproxy.undmedlibrary.org/10.1080/905466301750163563>
- National Center for Complementary and Integrative Health. (2016). Complementary, *alternative, or integrative health: What's in a name?* Retrieved from <https://nccih.nih.gov/health/integrative-health#cvsa>
- Reed, R.M., Reed, A.W., McArdle, P.F., Miller, M., Pollin, T.I., Shuldiner, A.R., Steinle, N.I., & Mitchell, B.D. (2015). Vitamin and supplement use among Old Order Amish-Sex specific prevalence and associations with use. *Journal of the Academy of Nutrition and Dietetics*, 115, 397-405. doi:10.1016/j.jand.2014.08.020. Epub 2014 Oct 12.
- Reiter, P. L., Katz, M. L., Ferketich, A. K., Paskett, E. D., Clinton, S. K., & Bloomfield, C. D. (2009). Complementary and alternative medicine use among Amish and non-Amish residents of Ohio, Appalachia. *Online Journal of Rural Nursing and Health Care*, 9(2), 33-44. Retrieved from <http://rnojournl.binghamton.edu/index.php/RNO/article/view/84>

Rieman, M. T., & Kagan, R. J. (2012a). Development of a burn prevention teaching tool for Amish children. *Journal of Burn Care Research*, 33, 259-264.

doi:10.1097/BCR.0b013e318233591c

Rieman, M. T., & Kagan, R. J. (2012b). Pilot testing of a burn prevention teaching tool for Amish children. *Journal of Burn Care Research*, 33, 265-271. doi:

10.1097/BCR.0b013e3182335903

Rieman, M. T., Neely, A. N., Boyce, S. T., Kossenjans, W. J., Durkee, P. J., Zembrodt, J. M., Puthoff, B.K., & Kagan, R. J. (2014). Amish burn ointment and burdock leaf dressings:

Assessment of antimicrobial and cytotoxic activities. *Journal of Burn Care and Research*, 35, e217-e223. doi.org/10.1097/BCR.0b013e3182a23228

Rogers, A., Horst, M., Rogers, F., Lee, J., & Reihart, M. (2013). From the barn to the operating room and back: The Amish way of life leads to improved throughput and outcomes following trauma. *Journal of Trauma Acute Care Surgery*, 75, 916-918.

doi.org/10.1097/TA.0b013e3182a6864e

Sharpnack, P. A., Quinn Griffin, M. T., Benders, A. M., & Fitzpatrick, J. J. (2010). Spiritual and alternative health care practices of the Amish. *Holistic Nursing Practice*, 24(2), 64-72.

doi.org/10.1097/HNP.0b013e3181d39ade

Sharpnack, P.A., Quinn Griffin, M.T., Benders, A.M., & Fitzpatrick, J.J. (2011). Self-transcendence and spiritual well-being in the Amish. *Journal of Holistic Nursing*, 29(2),

91-97. doi:10.1177/0898010110378043

Trinkle, K. M. (2016). Amish culture and their utilization of burns and wound ointment for treatment of burns. *Holistic Nursing Practice*, 30(2), 78-87. doi:

10.1097/HNP.0000000000000133

Appendix A

Table A1: Polk County Amish Home Remedies (Altepeter, 2015).

Health Ailment	Amish Home Remedy	Instructions
Toothache	White oak bark, marshmallow root, black walnut hulls	Crush, mix, apply to tooth
Toothache	Whiskey	Mouth wash
Sore throat	Alum powder and water	Gargle
Earache	Potatoes and onions	Pack outside of the ear
Earache	Garlic oil	Place inside of the ear
Earache	Tea tree oil	Rub behind the ear
Headache	Burdock leaves	Place leaves on forehead
Sore throat/tonsils	Burdock leaves	Scald leaves, cool and place on the neck
Sore muscles	Honey	Rub on sore muscles
Fever	Water enema	Rectal enema
Fever	Peppermint oil	Bathe in water and peppermint oil
Fever	Potato and onion	Make paste and place on chest and back
Fever	Onion	Apply to feet
Fever	Olive oil	Warm oil, apply to body, this feeds and rehydrates the body
Fever	Dry mustard and flour	Mix and apply to the body
Fever	Raw apple cider vinegar	Rub on wrists and feet
Wound	Chickweed, plantain, bees wax, olive oil, plantain leaves, lavender oil, cloves	Make into a salve, apply and cover with burdock leaves. Change 2-3x/day

Wound	Aspirin	Make an aspirin paste and apply to wound
Wound	B & W ointment (Burn and Wound)	Apply to wound and cover with burdock leaves
Rash	“Healing oil” which contains comfrey leaves, garlic, plantain, olive oil	Mix, place in a jar, let stand for 6 weeks before using, apply to rash
Poison Ivy	Vinegar	Apply to poison ivy
Rash	Vitamin E oil	Apply to rash
Respiratory Infection, including pneumonia and RSV	“Lung formula”, hot pepper, cloves, butterfly weed, pleurisy root, wild ginger and catnip	Mix, let stand, apply to chest, wrap with warm towels.
Pneumonia	“Pneumonia Salve” containing turpentine, vinegar, homemade lye soap, lard and salt	Mix in a jar and let stand as long as possible. Apply to chest, wrap tightly in a warm towel. Hold child upright while phlegm is quickly expelled
Respiratory infection	Onions	Apply to chest and feet
Croup	Vinegar	Steam bath
Infection	Garlic	Garlic is a “natural antibiotic”
Blood transfusion replacement	Turnip greens	Mix into a juice
Blood cleanser or colon cleanser	Red beets, whey, salt, water	Allow to ferment and drink ½ cup/day
Liver cleanser	Olive oil or olive leaf	1 TBS, 1-3x/day
Colon probiotic	Sauerkraut, whey and salt	(instructions not obtained)
Deep infection ex: kidney infection	Helichrysum oil	Apply to area of infection

Worms	Diluted ever clear, add black walnut hulls, cloves, wormwood, garlic	(instructions not obtained)
Lyme disease	Cats claw and herbs	(instructions not obtained)
Antibiotic for infection	Olive leaf and black walnut hulls	(instructions not obtained)
Bleeding	Pepper, Shepard's purse, leaf of comfrey root	(instructions not obtained)
Prevent miscarriage	Sheppard's purse, catnip,	Chew catnip or drink catnip tea
"Healthy uterus"	Raspberry leaf tea	(dose not obtained)

THE EFFECTIVENESS OF AMISH HOME REMEDIES

INDEPENDENT STUDY
UNIVERSITY OF NORTH DAKOTA

Presentation to Medical Providers in Polk County, MN.

2017

Sheri Altepeter BSN, RN, PHN

OBJECTIVES

1. *Name three unique characteristics of the Amish culture.*
2. *Describe three common unintended injuries occurring with the Amish people.*
3. *Name three common Amish home remedies.*

DEFINITIONS

Home remedies: methods of treating injuries or illnesses at home, passed down from generation to generation, often using natural ingredients

Old Order Amish (OOA): the most conservative of the Amish affiliations, which include Old Order, New Order, Swartzentruber, Byler, Lancaster and Swiss

Complementary Alternative Medicine (CAM): includes the use of home remedies, vitamins, minerals, herbs, chiropractic, reflexology, and massage.

“Amish doctors”: Amish men with no college education, giving medical advice and treating illnesses and injuries in the Amish community

“Amish dentists” : Amish men who lack a formal dental education and frequently pull teeth.

“Amish herbalists” use herbs and supplements for the promotion of health.

Amish burn dressers: Amish people trained by other Amish people in the natural care of burns

AMISH GATHERING



Amish Gathering. (n.d.). [Photograph]. Retrieved from <https://pixabay.com/en/amish-persons-man-women-people-287407/>

COMMUNITY ASSESSMENT OF THE AMISH POPULATION IN POLK COUNTY (2015)

Life-long interest in this culture

Friendships formed with Amish families

Advanced Public Health Practicum I

Assessment completed May, 2015

Home visits with seven Amish families

Fertile

Winger

Lengby (not visited for this assessment)

Interviews with eight key informants

DISCUSSION QUESTION:

Have you had experiences or interactions with Amish people?

HISTORY OF THE AMISH PEOPLE

Persecuted in Europe because of religious practices

Anabaptists = adult baptism

Between 1527 and 1614, 25,000 were killed

Martyr Hans Haslibacher, beheaded in 1571

Refugees from Europe to America, 1730's to 1850's

first settling in Indiana

1974: Several Old Order Amish moved to SE Minnesota

Year 1900 = 6,000 Amish in U.S.

Year 2013 = 275,000 Amish in U.S.

Currently living in 30 states and Ontario

BELIEFS OF THE AMISH PEOPLE

Strong trust in God for their healing

Man-made medicine:

May do more harm than good

“doctors are not taught about nutrition, they just know about drugs” (Gillum et al., 2011, p. 293).

Many Amish people believe that health outcomes are out of the control of doctors and nurses, relying more on fate and faith, and preferring “natural remedies to complex scientific options” (Armer & Radina, 2006, p. 44).

AMISH CULTURE

- *Natural Lifestyle*
- *Healthy diet*
- *Physical activity*
- *Hard work*
- *Value health: a gift from God*
- *Large families: seldom using birth control*
 - *Fastest growing rural population*
- *No electricity*
- *No motor vehicles*
- *8th grade education: Amish country schools*
- *Three languages: Low German, High German, English*



(Amish carriage. (n.d.). [Photograph] Retrieved from <https://pixabay.com/en/amish-carriage-farm-country-444058/>)

HEALTH OF THE AMISH PEOPLE

Several factors may reduce chronic illnesses:

Increased physical activity

Lower levels of obesity

Lower rates of tobacco use

Lower rates of cancer

NUTRITION: FROM COMMUNITY ASSESSMENT (2015)

- **Whole Grains**
- **Beef**
- **Pork**
- **Chicken**
- **Eggs**
- **Fish**
- **Venison**
- **Milk**
- **Cheese**
- *Potatoes*
- *Carrots*
- *Green Beans*
- *Corn*
- *Peas*
- *Squash*
- *Peppers*
- *Cabbage*
- *Celery*
- *Lettuce*
- *Beets*
- *Cucumbers*
- *Broccoli*
- *Strawberries*
- *Raspberries*



(Vegetables. (n.d.). [Photograph] Retrieved from <https://pixabay.com/en/vegetables-cucumber-onion-salad-2203300/>)

ALCOHOL/TOBACCO USE REPORTED FROM POLK COUNTY COMMUNITY ASSESSMENT

- *Home Remedies:*

- *Whisky + honey/lemon*
- *Vodka + herbs*
- *Ever Clear/diluted for a wormer*
- *Schnapps*
- *Homemade Wine for croup*

(Altepeter, 2015)

- **No Tobacco Use**



(Wine. (n.d.). [Photograph] Retrieved from <https://pixabay.com/en/wine-drink-restaurant-weinstube-1655661/> photo)

PHYSICAL ACTIVITY: COMMUNITY ASSESSMENT (2015)

- Care of Children
- House Work
- Farming
- Milking
- Laundry
- Gardening
- Walking
- Sewing
- Canning
- Cooking
- Care for Animals
 - Cows (range 2-20)
 - Horses (range 7-10)
 - Chickens (range 4-400)
 - Turkeys (range 1-25)
 - Ducks (13)
 - Pigs (2)
 - Rabbits
 - Goats

USE OF MEDICAL CARE: COMMUNITY ASSESSMENT (2015)

- **Midwives: Fertile and Gonvick**
- **Clinics Utilized**
 - RiverView Clinic in Fertile
 - Zero have a primary physician
 - Clinics only for serious illnesses such as Lyme Disease
 - All households had family members who had Lyme Disease
 - 4 out of 7 homes use Chiropractic care
- **Hospitals Utilized**
 - RiverView
 - Altru
 - Only for very serious illnesses or injuries
 - Displaced fractures
 - Heart Attack
 - Stroke
 - Premature labor
 - Severe dehydration
 - Appendicitis
 - Severe food poisoning
 - Salmonella

UNINTENDED INJURY

Great risks of unintended injury:

Use of fire for cooking and heating

Kerosene for light

Gasoline powered washing machines

Lack of shoes during warm months

Old boards/nails

Saws

Pitch forks

Farm animals

Old machinery



(Rural Landscape. (n.d.) [Photograph]. Retrieved from <https://pixabay.com/en/monochrome-black-and-white-country-1453496/>)

BURNS

Amish may be at higher risk of burns related to their lifestyle

Amish children, most often burned by scalding water used for:

Canning/butchering

Washing clothes

Bathing

Making lye soap

Open flames

Igniting long, loose dress styles

Burn prevention is seldom taught in Amish schools



(Wood Stove. (n.d.). [Photograph]. Retrieved from <https://pixabay.com/en/wood-stove-cooking-chorreada-72713/>)

UNINTENDED INJURIES

Example of foot injury:

Six-year old, bare footed Amish girl
Stepped on manure pitchfork in the barn
Foot was pierced nearly through
Deep, dirty, painful wound
Mother cared for the wound three times/day:
 Soaked in Epsom salt water
 Applied homemade ointment:
 Olive oil, garlic, plantain,
 comfrey and burdock leaves
 Packed with rags
 Wound healed within three days

Example of second degree burn from hot water in bath:

Two-year-old Amish girl
Mother applied the same home remedy ointment
Healed rapidly without complication

AMISH HEALTH CARE PRACTICES

Often reluctant to utilize modern medicine,
health screenings and vaccinations

When ill, he or she will:

- Seek advice from family members

- Try home remedies

 - Natural

 - Gift from God

- Seek care from “Amish doctors”

Although the bible does not forbid using
modern medical care, the Amish will always
begin treatment with home remedies

(Altepeter, 2015; Hostetler, 1995; Kahn, Demme & Lentz, 2013; Kraybill et al., 2013; Rieman & Kagan, 2012b; Sharpnack, Quinn Griffin, Benders & Fitzpatrick, 2010)

HEALTH CARE PRACTICES

Many Amish people believe:

**Health outcomes are out of the
control of doctors and nurses**

Rely on fate and faith

**Preferring “natural remedies to
complex scientific options” (Armer &
Radina, 2006, p. 44).**

HEALTH CARE PRACTICES

Factors that influence the Amish health care practices and promote their frequent use of home remedies:

Lack of health care insurance

Traveling distance

Amish chiropractors/doctors /dentists

Avoidance of hospitals/long-term care

**OOA: less likely to use modern
medical care**

Wait before seeking care

**Men are the head of the household
and make the health care decisions**

HEALTH CARE PRACTICES

Health care practices of the Amish:

“take care of their own”

Modern health care in serious situations. “Their primary preference for natural healing is for holistic and faith-based reasons, but they also avoid costly medical bills by choosing culturally acceptable options” (Rieman et al., 2014, p. e221)

“costly procedures to extend life, such as cancer screening tests, may be rejected because of the associated expense and their perception of modern medicine’s attempt to replace the will of God” (Katz et al., 2010, p. 307).

HOME REMEDIES

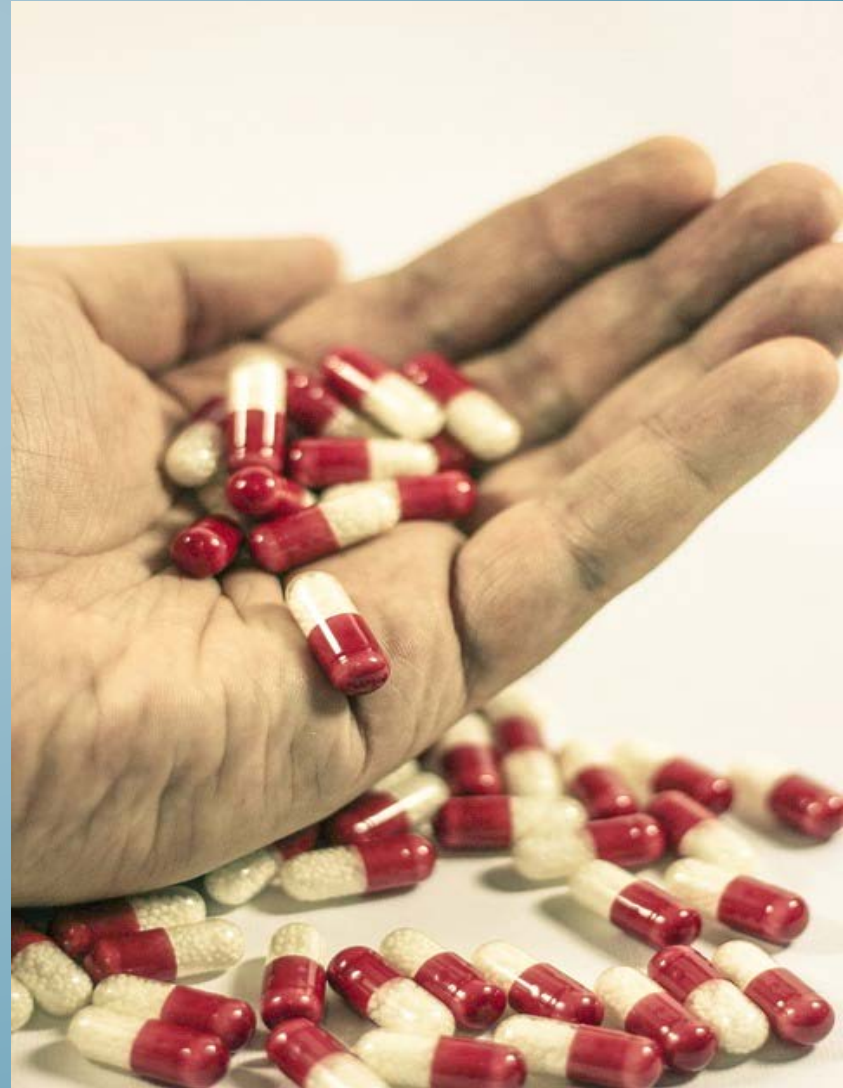
Amish people consider home remedies:

Gift from God

Made from plants

Made by God

The Amish in the Gillum et al. (2011) study felt that man-made medicine may do more harm than good, stating “doctors are not taught about nutrition, they just know about drugs” (Gillum et al., 2011, p. 293).



HOME REMEDIES

37.3% of Amish study participants sought the help of a physician “**only when required or when natural remedies were not effective**” (Sharpnack et al., 2010, p 68).

Cuyun Carter et al. (2012) found frequent use of “folk remedies”, also known as home remedies:

Farming injuries accounted for 43% of home remedy use

Most frequent reason for home remedies.



HOME REMEDIES

Community Assessment of 14 Amish Adults (2015):

Multiple home remedies for:

toothache

sore throat

earache

headache

sore muscles

fever

wounds

rashes

respiratory illness

kidney infection

worms

Lyme disease

bleeding

miscarriage (Altepeter, 2015).

(Altepeter, 2015)

COMPLEMENTARY ALTERNATIVE MEDICINE (CAM)

Amish doctors/chiropractors /dentists:

Self-trained

Eighth-grade education

Supplements used 77% of the time compared to conventional medications, used 22% of the time

Rely on herbs to improve their health:

In place of conventional medications

Echinacea:

Used by 37.5% Amish women

Used by 5.6% non-Amish women

Garlic :

Used by 11.1% Amish women

Used by 1.1% non-Amish women

Echinacea



(Echinacea. (n.d.). [Photograph]. Retrieved from <https://pixabay.com/en/echinacea-hummel-sun-hat-nature-1155017/>)

CAM CONTINUED

Higher use of nutritional and dietary supplements:

Enzymes

Fiber

Herbs (Echinacea, Ginseng, Gingko, Garlic)

Improve immunity

Prevent/Treat head/chest colds

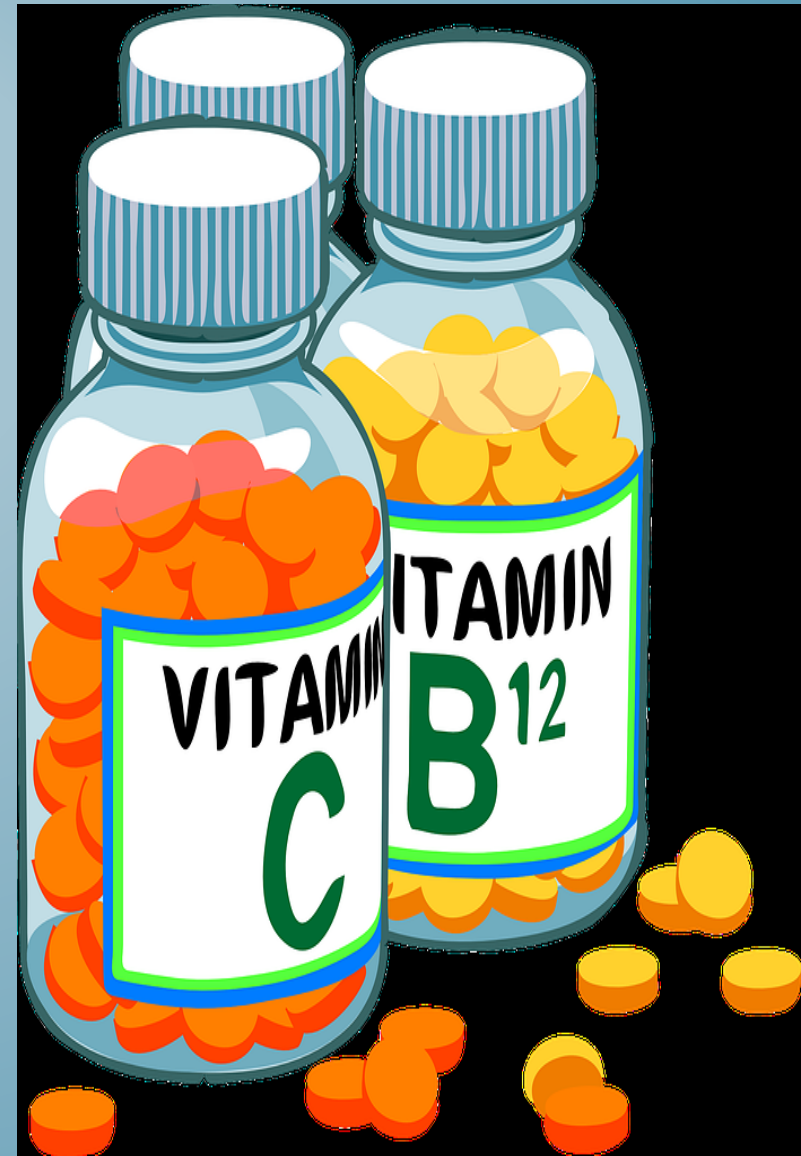
Minerals

Vitamins

Aloe Vera : Bee stings/cuts/insect bites

Tea and peppermint oil :

Respiratory illnesses



CAM: USE OF SUPPLEMENTS

40% of Americans use alternative health care
much higher use of alternative health care
within the Amish population

Supplements :

Amish use 85.7% of the time

Multivitamins

Vitamin C

Flaxseed

Fish Oil

Amish use herbal and home remedies
59.5% of the time

Herbal remedies: most common

Echinacea

Goldenseal

(Sharpnack et al., 2010)

BURNS AND WOUND OINTMENT (B&W)

B&W contains:

*Honey, lanolin, olive oil, wheat germ oil,
aloe vera gel, wormwood, marshmallow
root, comfrey root, white oak bark,
lobelia, vegetable glycerin and beeswax*

Vegetable-based ointment mixture

Not approved by the FDA

*Ingredients have been used for centuries for
many ailments:*

*Asthma, back and joint pain, bronchitis,
bruises, breast soreness and muscle
injuries*



BURDOCK LEAVES

Burns and wounds are often wrapped in burdock leaves

- ❖ *Thistle plant growing wild*
- ❖ *Protects the burn or wound*
- ❖ *Herbalists consider it a diuretic and blood purifier*
- ❖ *Perennial plant found all over the world*
- ❖ *Used for over 3,000 years in Asia, Europe, and North America*
- ❖ *Considered to be a health food in the Chinese culture*
- ❖ *Used for eczema, boils, infections, rashes and sore throats*
- ❖ *Detoxifies the blood and promotes circulation*
- ❖ *Roots have anti-oxidant and anti-diabetic benefits*
- ❖ *Burdock seeds have been shown to strengthen the immune system, have anti-cancer, anti-diabetes, anti-inflammatory, anti-microbial and anti-viral qualities.*

“The medicinal use of burdock in treating chronic diseases like cancers, diabetes and AIDS is promising” (Chan et al., 2011, p 252).

Burdock Leaves



(Burdock Leaves. (n.d.). [Photograph]. Retrieved from <https://pixabay.com/en/field-burdock-root-garden-972999/>)

BURDOCK LEAVES

Chan et al. (2011) cited numerous studies showing:

Anti-microbial effects against:

E. coli

Staphylococcus Aureus

Burdock is used in the treatment of:

Tooth and gum disease

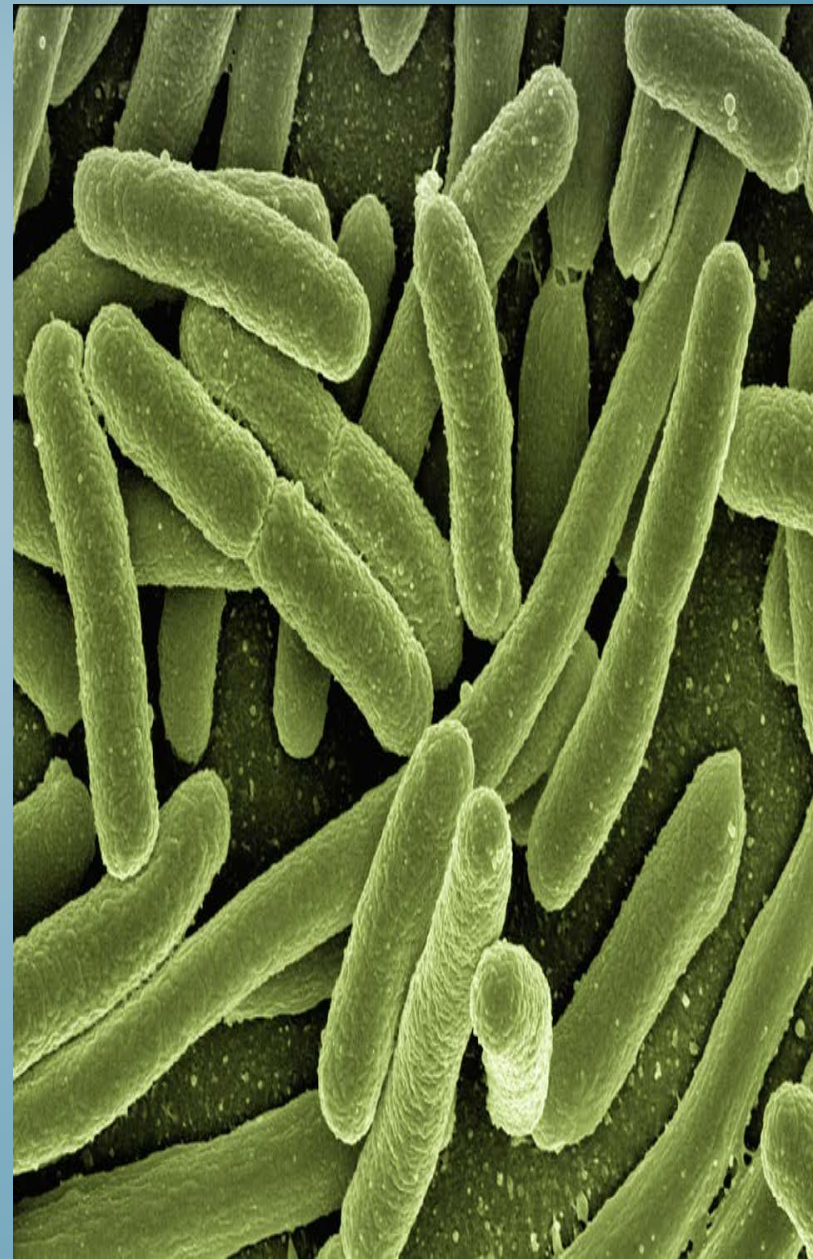
*Traditional Chinese Medicine uses
burdock in the treatment of:*

AIDS

Cancer

Diabetes

*Burdock root and fruit have a
hypoglycemic effect*



B&W AND BURDOCK LEAVES

Combination of B&W and burdock leaves

*Developed in the 1980's by **John Keim**, an Amish man*

God told him to develop this natural method for treating and healing wounds, especially burns.

Describes the combination of B&W and burdock as having an analgesic and anti-inflammatory effect

Has trained hundreds of Amish burn healers

Two day seminars, which include:

Education on types of burns

Infection

Dehydration

Nutrition

B&W AND BURDOCK LEAVES

Kolacz et al. (2014) reviewed 12 studies which showed the benefits of burdock leaves

Anti-inflammatory benefits

Analgesic effect

Antibacterial property

Amish people prefer this wound care method:

Natural

Inexpensive: \$1.46-\$3.25 per ounce

Accessible

Eliminate pain

Speeds healing

B&W is vegetable-based compared to modern burn ointments being petroleum-based

BURN DRESSERS

“Burn dressers” are Amish people, trained in using B&W and burdock leaves

Volunteers

Going into homes of the burn victim

Or the burn victim stays in the burn dresser’s home

Nine Amish burn dressers participated Kolacz et al. (2014) study

Received training from John Keim

Dressing change protocol every 12 hours

Pain drastically decreased from 10 to zero

No infections

Healing times varied from five to 23 days

No pain with this type of dressing change

More research needed on severe burn cases



B&W AND BURDOCK

Main et al. (2012) study of B&W and Burdock burn dressings revealed:

Burn treatment done three to four times per day:

Cooling the burn with cool water for 15-20 minute

Applying B&W

Covering with cooled burdock leaves (softened in boiling water)

Covered with gauze

Little or no pain

Children did not cry during the dressing

Rapid healing

Minimal scarring

New skin growth within 5-17 days

Total burn healing within 3-6 weeks (even severe burns).



(Time Heals All Wounds. (n.d.). [Photograph]. Retrieved from <https://pixabay.com/en/time-heals-all-wounds-consolation-1087107/>)

HONEY

Commonly used home remedy

Used for thousands of years

- ❖ *Aristotle used as an eye and wound ointment, 384-322 BC*
- ❖ *Used as an ointment and a drug since 2100-2000 BC*
- ❖ *Use as a burn treatment was published in London in 1325*

Extensive studies have found many benefits of honey:

- ❖ *Antibacterial properties (broad spectrum)*
- ❖ *Draws moisture from bacterial cells*
- ❖ *High sugar and low pH prevent microbial growth*
- ❖ *Promotions of granulation of new tissues*
- ❖ *Keeps wound moist*
- ❖ *Anti-inflammatory actions*
- ❖ *Debriding qualities*

As antibiotic-resistance increases, future use of honey may become more important



(Honey. (n.d.). [Photograph]. Retrieved from <https://pixabay.com/en/honey-ingredient-healthy-food-1460406/>)

HONEY

Jull et al. (2015) published a more recent systematic review of the use of honey in treating wounds,

Reviewed 26 trials

3,011 participants

The authors concluded that two of the trials involving 992 participants found:

Partial thickness burns healed 4-5 days faster with the use of honey

Infected post-operative wounds healed more quickly with honey

Even so, the conclusion was made that it was difficult to determine definitive answers when there are so many types of wounds

(Jull et al., 2015)

HONEY

Molan and Rhodes (2015) reviewed 35 randomized controlled trials involving 3,655 individuals, supporting the use of honey in the treatment of wounds.

- *Honey: a biologic wound dressing*
- *Manuka honey: from Manuka trees/ most effective*
- *Honey was successful in treating any type of wound in any stage*
- *Acidity of the honey increases the release of oxygen from hemoglobin*
- *The high level of osmolarity draws fluid from the wound*
- *Stimulates the immune response*
- *Debrides wound*
- *Decreases inflammation*
- *Increases tissue growth and wound repair*
- *Studies have not found any development of bacterial resistance from honey*
- *Before use in wounds, it was recommended that honey be sterilized with gamma-irradiation to kill bacterial spores*

COMFREY

Comfrey is used in many Amish home remedies

Grows wild outdoors

An ingredient in B&W ointment

Use of comfrey dates back to 50 AD

Used to treat:

Inflammation

Bone fractures

Bruises

Hemorrhoids

Joint and muscle pain and sprains.

Analgesic, anti-inflammatory and granulation promoting properties

Comfrey



(Comfrey. (n.d.). [Photograph]. Retrieved from <https://pixabay.com/en/rough-comfrey-flower-blue-115168/>)

HOME REMEDIES FROM POLK COUNTY COMMUNITY ASSESSMENT

- *Headache Pain:*

- *Peppermint*
- *Burdock leaves on forehead*
- *Wintergreen oil*
- *Water enema*

Toothache:

- *White oak bark, marshmallow root,*
- *Black walnut hulls*

- *Whiskey mouth rinse*

Earache:

- *Pack potatoes and onions outside of ear*

- *Pneumonia:*

“Lung formula”

Hot pepper, cloves, butterfly weed, pleurisy root, wild ginger, catnip

“Pneumonia Salve”

- *Turpentine, vinegar, lye soap, lard and salt*

Wounds:

Chickweed, burdock, plantain, bees wax, olive oil, lavender oil, cloves, plantain leaves, wrap in burdock leaves, change 2-3x/day

REFERENCES

- Altepeter, S. R. (2015). [Community Assessment of the Amish Population in Polk County, Minnesota]. Unpublished raw data.
- Armer, J. M., & Radina, M. E. (2006). Definition of health and health promotion behaviors among Midwestern Old Order Amish families. *Journal of Multicultural Nursing & Health*, 12(3), 44-53. Retrieved from <http://docshare01.docshare.tips/files/25855/258553532.pdf>
- Chan, Y., Cheng, L., Wu, J., Chan, E., Kwan, Y., Lee, S. M., Leung, G.P., Yu, P.H., & Chan, S. (2011). A review of the pharmacological effects of *Arctium lappa* (burdock). *Inflammopharmacology*, 19, 245-254. doi:10.1007/s10787-010-0062-4
- Cuyun Carter, G. B., Katz, M. L., Ferketich, A. K., Clinton, S. K., Grainger, E. M., Paskett, E. D., & Bloomfield, C. D. (2011). Dietary intake, food processing, and cooking methods among Amish and non-Amish adults living in Ohio Appalachia: Relevance to nutritional risk factors for cancer. *Nutrition & Cancer*, 63, 1208-1217. doi:10.1080/01635581.2011.607547

REFERENCES

- Cuyun Carter, G.B., Katz, M.L. & Ferketich, A.K. (2012). The use of daily aspirin, nutritional supplements and alternative medicine among Amish and non-Amish living in Ohio Appalachia. *Nutrition and Cancer*, 64, 911-918. doi:org/10.1080/01635581.2012.714046
- Esliger, D. W., Tremblay, M. S., Copeland, J. L., Barnes, J. D., Huntington, G. E., & Bassett, D. J. (2010). Physical activity profile of Old Order Amish, Mennonite and contemporary children. *Medicine & Science in Sports & Exercise*, 42, 296-303. doi:10.1249/MSS.0b13e3181b3afd2
- Frost, R., MacPherson, H., & O'Meara, S. (2013). A critical scoping review of external uses of comfrey (*Symphytum* spp.). *Complimentary Therapies in Medicine*, 21, 724-745. doi:10.1016/j.ctim.2013.09.009.

REFERENCES

- Giannetti, B. M., Staiger, C., Bulitta, M., & Predel, H. G. (2010). Efficacy and safety of comfrey root extract ointment in the treatment of acute upper and lower back pain: Results of a double-blind, random, placebo controlled, multicenter trial. *British Journal of Sports Medicine*, 44, 637-641. doi:10.1136/bjsm.2009.058677
- Gillum, D. R., Staffileno, B. A., Schwartz, K. S., Coke, L., Fogg, L., & Reiling, D. (2011). Cardiovascular disease in the Amish: An exploratory study of knowledge, beliefs, and health care practices. *Holistic Nursing Practice*, 25, 289-297. doi:10.1097/HNP.0b013e318232c58d
- Grube, B., Grunwald, J., Krug, L. & Staiger, C. (2007). Efficacy of a comfrey root (*Symphyti offic. radix*) extract ointment in the treatment of patients with painful osteoarthritis of the knee: Results of a double-blind, randomized, bicenter, placebo-controlled trial. *Phytomedicine*, 14(2007), 2-10. doi:10.1016/j.phymed.2006.11.006
- Hairston, K. G., Ducharme, J. L., Treuth, M. S., Hsueh, W., Jastreboff, A. M., Ryan, K.A., & Snitker, S. (2013). Comparison of BMI and physical activity between Old Order Amish children and non-Amish children. *Diabetes Care*, 36, 873-878. doi:10.2337/dc12-0934

REFERENCES

- Hostetler, J. A. (1995). *The Amish*. Scottsdale, PA
- Jull, A. B., Cullum, N., Dumville, J. C., Westby, M. J., Deshpande, S., & Walker, N. (2015). Honey as a topical treatment for wounds. *Cochrane Database of Systematic Reviews*, 3, 1-130. doi: 10.1002/14651858.CD005083.pub4.
- Jull, A. B., Walker, N., & Deshpande, S. (2013). Honey as a topical treatment for wounds. *Cochrane Collaboration*, 2, 1-95. doi: 10.1002/14651858.CD005083.pub3
- Kahn, S.A., Demme, R.A., & Lentz, C.W. (2013). Mortality after treating severe burns with Amish traditional home remedies: A case report, literature review and ethical discussion. *Burns*, 39(2013), e13-e16. doi.org/10.1016/j.burns.2012.09.011
- Katz, M., Ferketich, A., Paskett, E., & Bloomfield, C. (2013). Health literacy among the Amish: Measuring a complex concept among a unique population. *Journal of Community Health*, 38, 753-758. doi:10.1007/s10900-

REFERENCES

- Katz, M. L., Ferketich, A. K., Paskett, E. D., Harley, A., Reiter, P. L., Lemeshow, S., & Bloomfield, C. D. (2010). Cancer screening practices among Amish and non-Amish adults living in Ohio Appalachia. *Journal of Rural Health*, 27, 302-309. doi:10.1111/j.1748-0361.2010.00345.x
- Kolacz, N. M., Jaroch, M. T., Bear, M. L., & Pomerene, J. (2014). The effect of B&W (Burns and Wounds)/burdock leaf therapy on burn-injured Amish patients. A pilot study measuring pain levels, infection rates and healing times. *Journal of Holistic Nursing*, 32, 327-340. doi:org/10.1177/0898010114525683
- Kraybill, D. B., Johnson-Weiner, K. M., & Nolt, S. M. (2013). *The Amish*. Baltimore, Maryland: The Johns Hopkins University Press.
- Main, M. E., Williams, D., & Jones, M. S. (2012). Treatment of burns with burns & wounds (B&W) ointment and leaf therapy. *Journal of Alternative and Complementary Medicine*, 18, 109-111. doi:10.1089/acm.2011.0416

REFERENCES

- Mandal, M. D., & Mandal, S. (2011). Honey: Its medicinal property and antibacterial activity. *Asian Pacific Journal of Tropical Biomedicine*, 1, 154-160. doi:10.1016/S2221-1691
- Mitchell, B. D., Lee, W., Tolea, M. I., Shields, K., Ashktorab, Z., Magder, L.S., Ryan, K.A., Pollin, T.I., McArdle, P.F., Shuldiner, A.R. & Schaffer, A.A. (2012). Living the good life? Mortality and hospital utilization patterns in the Old Order Amish. *PLOS ONE*, 7(12) 1-7. doi:10.1371/journal.pone.0051560
- Molan, P. & Rhodes, T. (2015). Honey: A biologic wound dressing. *Wounds*, 27, 141-151. Retrieved from <http://www.woundsresearch.com/article/honey-biologic-wound-dressing>
- National Center for Complementary and Integrative Health. (2016). Complementary, alternative, or integrative health: What's in a name? Retrieved from <https://nccih.nih.gov/health/integrative-health#cvsa>

REFERENCES

- Reed, R.M., Reed, A.W., McArdle, P.F., Miller, M., Pollin, T.I., Shuldiner, A.R., Steinle, N.I., & Mitchell, B.D. (2015). Vitamin and supplement use among Old Order Amish-Sex specific prevalence and associations with use. *Journal of the Academy of Nutrition and Dietetics*, 115, 397-405. doi:10.1016/j.jand.2014.08.020. Epub 2014 Oct 12.
- Rieman, M. T., & Kagan, R. J. (2012b). Pilot testing of a burn prevention teaching tool for Amish children. *Journal of Burn Care Research*, 33, 265-271. doi:10.1097/BCR.ob013e3182335903
- Rieman, M. T., Neely, A. N., Boyce, S. T., Kossenjans, W. J., Durkee, P. J., Zembrodt, J. M., Puthoff, B.K., & Kagan, R. J. (2014). Amish burn ointment and burdock leaf dressings: Assessment of antimicrobial and cytotoxic activities. *Journal of Burn Care and Research*, 35, e217-e223. doi.org/10.1097/BCR.ob013e3182a23228

REFERENCES

- Sharpnack, P. A., Quinn Griffin, M. T., Benders, A. M., & Fitzpatrick, J. J. (2010). Spiritual and alternative health care practices of the Amish. *Holistic Nursing Practice*, 24(2), 64-72. doi.org/10.1097/HNP.0b013e3181d39ade
- Sharpnack, P.A., Quinn Griffin, M.T., Benders, A.M., & Fitzpatrick, J.J. (2011). Self-transcendence and spiritual well-being in the Amish. *Journal of Holistic Nursing*, 29(2), 91-97. doi:10.1177/0898010110378043
- Trinkle, K. M. (2016). Amish culture and their utilization of burns and wound ointment for treatment of burns. *Holistic Nursing Practice*, 30(2), 78-87. doi: 10.1097/HNP.0000000000000133



Questions Anyone?