ABSTRACT
Throughout history, Soldiers in wartime have been especially vulnerable to infectious diseases, which have devastated and decimated entire armies, causing suspension and, in some cases, complete cancellation of military operations. Dr William Foege, a renowned Harvard epidemiologist, and his colleagues claim that throughout history, infectious diseases have killed more Soldiers than have weapons. Reality shows that it does not matter if your Soldiers had the best training available with the best equipment and top of the world intelligence: if your personnel get sick, they become more of a liability than an asset for a combat operation. This article presents some of the key findings that continue to affect our Special Operations Forces (SOF) and how the use of specifically designed new products can help in controlling short- and long-term consequences of infectious diseases.

Keywords: preventive medicine; diseases, infectious

Introduction
An SOF deployment and mission is a complex sensitive and hard thing to achieve. The fewer health variables a commanding officer and his or her medic personnel have to deal with, the better the results will be. One of the main assumptions taken for granted is that all personnel will be in top physical and mental health when the moment comes, but it just takes a simple cold or stomach flu to move a straightforward operation to a highly risky one in a few hours.

For the past 3 years, a group of scientists, entrepreneurs, and engineers came into the realization that preventive medicine has taken a back seat in the preparation of our SOF, even though scientific data show that it should take center stage until specific products and procedures are in place.

According to the Army Field Hygiene and Sanitation report FM 21-10 MCRP 4-11.1D, “... in every conflict the US has been involved in, only 20 percent of all hospital admissions have been from combat injuries. The other 80 percent have been from DNBI [diseases and nonbattle injury]. Excluded from these figures are vast numbers of service members with decreased combat effectiveness due to DNBI not serious enough for hospital admission.”

Importance of Hygiene and Disease Prevention
On average, 36% of all deployed personnel get sick or ill due to infection with common contagious diseases that can be easily controlled with proper hygiene and preventive medicine if the right products and procedures are in place. Here are some simple facts that can change the outcome of a well thought-out mission:

- Contagious diseases can go from a simple cold all the way to Ebola virus. With such a wide spectrum, all SOF Units and their medical teams must pay special attention to this subject.
- One of the first, most important, and clear signs of depression, mental health issues, and suicidal behavior is when the Soldier “doesn’t clean him/herself.”
- A filthy, harsh environment brings with it all kinds of viruses, bacteria, and germs that can take a Soldier from healthy and strong to a sick individual in 24 hours.
- A foot fungus can eat up skin so fast that in 4 days, a Soldier can barely walk or even stand upright.
- Sunburn is the most common ultraviolet light-related skin injury and has a serious effect on mobility and endurance of personnel.
• Insect bites can take away the few hours of rest that SOF may have; that rest could be the difference at the moment of battle.
• Reports from enemy combatants state that they can “smell when the Americans are coming.”
• Feeling clean is one of the most rewarding, comforting, and positive experiences when you are under extreme pressure.
• The cost in terms of medical personnel, transportation, logistics, beds, facilities, antibiotics and other drugs to bring a sick Soldier back to health is staggering.
• A deployed sick Soldier is not only a logistic, medical, and monetary nightmare, it is also a huge security breach.

Products for Prevention and Control of Infectious Disease

There are very few specialized products designed to prevent and control contagious diseases with our Warriors in mind. Products that meet these needs must have most, if not all, of these features:

• Lightweight
• Multifunctional/multipurpose capabilities
• Unscented/tactical features
• Waterless performance capability
• Modular, to be able to generate kits for every weather condition, terrain, and mission time
• Compact carry-on features
• Ergonomics that allow opening/closing and using with one hand
• Camouflage packaging
• Clinic- and field-tested effectiveness
• Designed specifically for “on the field” use

The clearest mistake that a commanding officer or Combat medic could make is to assume that personal hygiene is “just common sense.” It turns out that common sense is rare and it only takes one individual to get sick to spread the “goods” all over the team.

General awareness of contagious disease control and prevention is good, but not good enough. So a pep talk telling privates how important it is to be clean is good, but it does not make a real difference when so much is on the line. Commanding officers and medic personnel have to make sure that each individual deployed and/or involved in a Special Operation have the proper products, knows how to use them, and performs the hygiene procedures so potential contagious and debilitating diseases are kept at bay.

Among the most important regular actions that all medical and commanding officers need to do is research of any new effective line of products that can have a positive effect in preventing and controlling contagious diseases.

One key revolutionary formula comes from Zoono Z-71® and GermFree24® (Zoono Group Ltd.; www.zoono.com), two research products from New Zealand that have been demonstrated effectiveness in laboratory, clinical, and field test trials against influenza A virus subtype H1N1 (swine), tuberculosis, Escherichia coli, Staphylococcus aureus, Legionella spp. (including Legionella-caused pneumonia), Salmonella cholerae-suis, Listeria spp. (including L. monocytogenes ACM98), Neisseria spp., Haemophilus spp., Clostridium spp., Pseudomonas aeruginosa, methicillin-resistant Staphylococcus aureus (MRSA), vancomycin-resistant Enterococcus (VRE), Cryptosporidium parvum (oocysts), Citrobacter freundii MS2, Pseudomonas aeruginosa NCTC 674, and fungi in clinical and field research trials in Australia, Turkey, Germany, China, Dubai, the United Kingdom, New Zealand, the United States, and other places around the world, with extraordinary effectiveness. Zoono has received US Food and Drug Administration approval for their product lines in the United States. The most important factor is that Z-716 and GermFree246 are nontoxic; they kill pathogens by mechanically breaking them down, rather than by chemical poisoning. These products have shown a remarkable residual effect that can outlast all of the antibacterial/disinfectant brands currently on the market.

Another line of products that has gotten a lot of attention has been developed by United Spirit of America (www.usaspiritgov.com). Each of these products comes in an ergonomic easy-to-carry kit (Kit in a Click™), all hanging from a lightweight carabiner (Figure 1).
United Spirit of America products are ready available through the Defense Logistics Agency through a Distribution and Pricing Agreement contract and can be found in the Master Medical Catalog (MMC #6516). For a full description of these products that prevent and tackle fungi and bacterial infections that can affect the normal performance of a Special Forces Warrior, please visit www.usa-spirit.com and www.usaspiritgov.com.

All United Spirit of America products are Transportation Security Administration compliant, packed in a recyclable container of 3.0 ounces or less with biodegradable contents. They also comply with Presidential Executive Order 13514.

Disclosures

The author is the chief executive officer and lead researcher at United Spirit of America. The author does not have any direct relationship with Zoono Group Ltd., the manufacturer of Z-71 and GermFree24 but is very familiar with that company’s research.

References


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