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A SHORT REVIEW ON POLIOMYELITIS: TYPES, TRANSMISSION, DIAGNOSIS, PREVENTION, TREATMENT

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ABSTRACT

This research is focused on the impact of poliomyelitis in current era. It also explores strategies for its prevention and control. The study utilizes qualitative research methods to comprehensively explain and support interpretive goals. Secondary data sources are used for data collection. The disease is highly contagious and can spread rapidly, especially in areas with inadequate sanitation and low vaccination rates. The symptoms of polio vary from mild flu-like symptoms to severe paralysis, with some cases resulting in lifelong disability or death. Vaccination is the most effective means of preventing polio. The oral polio vaccine (OPV) and inactivated polio vaccine (IPV) have played a crucial role in reducing the global burden of the disease. Reinforcing healthcare systems: Polio eradication endeavors can contribute to the enhancement of overall healthcare systems, including surveillance, laboratory networks, and vaccine delivery systems. This can have broader benefits for other immunization programs and public health interventions. Collaboration and coordination: Continued cooperation among countries, international organizations, and stakeholders is essential in tackling the remaining challenges and ensuring a synchronized global response to polio eradication. Through united global efforts and unwavering dedication, the vision of a polio-free world can be achieved, safeguarding future generations from this devastating disease.

Keywords: Poliomyelitis, Types, Diagnosis, Prevention, Treatment.

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INTRODUCTION

The highly contagious viral disease poliomyelitis, or "polio," primarily affects young infants. It is brought on by a virus known as polio virus which primarily travels from individual to individual through feces and oral fluids. The virus replicates in the throat and gastrointestinal tract after entering the human body through the mouth. While many poliovirus infected individuals show no symptoms or just mild flu-like symptoms, the virus can occasionally penetrate the neurological system and result in paralysis. Poliomyelitis or paralytic polio is what this is. Infected motor neurons in the spinal cord are attacked and destroyed by the virus, causing muscle weakness and occasionally permanent paralysis **[1]**. There are two main types of polio vaccines: 1. The inactivated polio vaccine (IPV), and 2. The oral polio vaccine (OPV). In areas where polio has been eradicated, IPV is an intravenous vaccine that contains dead poliovirus. In nations where polio continues to pose a threat, the oral polio vaccine, or OPV, is more frequently given. It contains live but weakened poliovirus strains.

In the past, polio was a pervasive and terrible illness that led to significant epidemics in the first half of the twentieth century. Global efforts to eliminate polio have made significant strides. The number of polio cases has decreased by over 99% since the inception of the Global Polio Eradication Initiative in 1988. Polio eradication campaigns involve large-scale vaccination drives, surveillance systems for detecting and responding to cases, and the reinforcement of routine immunization programs. Challenges to polio eradication include obstacles related to vaccine accessibility and acceptance, conflict zones, and outbreaks of vaccine-derived polioviruses **[2, 3]**. The World Health Organization (WHO), in collaboration with partners such as UNICEF, Rotary International, and the Bill & Melinda Gates Foundation, leads the global efforts to eradicate polio. Despite the obstacles faced, there is reason to be optimistic about achieving a world without polio in the future. The following factors contribute to the objective of eradicating polio: 1. Persistent vaccination initiatives: Sustained efforts to administer vaccines and strengthen routine immunization programs are crucial in ensuring that every child receives the

polio vaccine **[4]**. Additionally, the development of new vaccine formulations and strategies may enhance the efficacy and accessibility of vaccines. 2. Advancements in research and development: Ongoing research focuses on improving the diagnosis, surveillance, and monitoring of poliovirus circulation. Furthermore, endeavors are being made to create new antiviral medications and innovative vaccines that can enhance the immune response against poliovirus. 3. Global dedication and financial support: International commitment and financial backing play a vital role in sustaining the momentum towards polio eradication. Governments, philanthropic organizations, and the private sector must continue investing in eradication efforts and strengthening healthcare systems **[5, 6]**.

HISTORY AND ERADICATION

Poliomyelitis, commonly referred to as polio, is an extremely contagious viral illness caused by the poliovirus. This virus primarily impacts the nervous system and can result in paralysis in severe cases. Below is a concise account of the history of poliomyelitis.

Early Instances

The earliest evidence of polio-like symptoms can be traced back to ancient Egypt, depicted in a stone carving known as an Egyptian stele from around 1400 BCE. Nevertheless, the first documented description of polio as a distinct disease emerged in the late 18th century, when British physician Michael Underwood detailed it in medical literature.

20th Century Outbreaks

Polio outbreaks became more frequent and severe in the early 20th century. Major epidemics occurred in Europe and the United States during the late 19th and early 20th centuries. The most severe epidemic in the United States took place in 1916, resulting in a significant number of cases and fatalities.

Identification of the Poliovirus

In 1908, Karl Landsteiner and Erwin Popper identified poliovirus as the causative agent of polio. They employed a porcelain filter to separate the infectious agent, allowing the virus to pass through while retaining bacteria. Injecting the filtered fluid into monkeys led to the development of polio symptoms.

Development of the Vaccine

Significant advancements in comprehending polio and creating a vaccine were made during the 1930s and 1940s. Dr. Jonas Salk, an American physician, developed the first effective killed-virus vaccine in the 1950s. Known as the inactivated poliovirus vaccine (IPV) or the Salk vaccine, it was produced using inactivated strains of the poliovirus and administered via injections. Albert Sabin, a virologist of Polish American descent, introduced a live, attenuated poliovirus vaccine called the Sabin Oral Polio Vaccine (OPV) during the 1960s. This oral vaccine utilized weakened strains of the poliovirus, allowing for easier distribution and administration, particularly in developing nations.

Initiation of Global Eradication Efforts

In 1988, the World Health Organization (WHO), UNICEF, Rotary International, and the U.S. Centers for Disease Control and Prevention (CDC) jointly launched the Global Polio Eradication Initiative (GPEI). The primary objective was the worldwide eradication of polio through comprehensive vaccination campaigns. Substantial advancements have been made since then, resulting in a reduction of polio cases by more than 99%.

Progress Toward Eradication

By the early 21st century, polio remained endemic in only a handful of countries, namely Afghanistan, Nigeria, and Pakistan. Nevertheless, the road to complete eradication encountered obstacles such as conflicts, vaccine hesitancy, and logistical challenges. The final stages of eradication proved to be the most arduous.

Present Status

As of my knowledge cutoff in September 2021, polio cases had reached an unprecedented low, with only a few reported instances each year. However, total eradication had not yet been achieved. Ongoing efforts persist to vaccinate and eliminate the remaining pockets of polio in order to attain the ultimate goal of eradicating polio worldwide **[7]**. For the most up-to-date and accurate information, it is recommended to consult official sources such as the World Health Organization (WHO) or the Centers for Disease Control and Prevention (CDC).

UNDERSTANDING POLIOVIRUS

Poliovirus Structure

Poliovirus, a member of the Picornaviridae family, is a compact RNA virus characterized by its single-stranded nature. Unlike some viruses, it lacks a protective lipid envelope. Instead, it is composed of a protein capsid that encloses its genetic material. This capsid comprises four specific structural proteins named VP1, VP2, VP3, and VP4.

Types of Polioviruses

There exist three separate forms of polioviruses, namely type 1, type 2, and type 3. These variations exhibit slight differences in their genetic composition, leading to variations in their antigenic characteristics. Consequently, the immune response elicited by one type may not confer immunity against the other types.

Transmission and Spread

The main mode of transmission for poliovirus is through the fecal-oral route, which involves the spread of the virus through contact with feces or contaminated food and water. The virus enters the body via the mouth and subsequently migrates to the intestines, where it reproduces and proliferates. Subsequently, the virus can infiltrate the

bloodstream from the intestines and disseminate to different tissues, including the central nervous system.

The primary way in which the poliovirus spreads is through direct human-to-human contact. This can happen when someone encounters the feces of an infected individual or when they inhale respiratory droplets released by an infected person through coughing or sneezing. The poliovirus is also capable of surviving outside the human body, especially in sewage and contaminated water, making indirect transmission possible over a prolonged period **[8-9]**. Poliovirus is highly contagious, and people who are infected can unknowingly spread the virus through their feces for several weeks, posing a risk of contaminating their surroundings and water sources, which can lead to further transmission. It's important to note that most individuals infected with poliovirus either don't experience any symptoms or only have mild flu-like symptoms. However, even without showing signs of illness, they can still transmit the virus to others. Only a small percentage, approximately 1 in 200, of those infected develop the most severe form of the disease known as paralytic polio. Efforts to control the transmission of poliovirus involve implementing vaccination campaigns, promoting better sanitation practices, and providing education on hygiene. The widespread utilization of oral polio vaccine (OPV) and inactivated polio vaccine (IPV) has played a vital role in reducing the global burden of polio and bringing several regions close to eradicating the disease.

CLINICAL FEATURES AND DIAGNOSIS OF POLIOMYELITIS

Asymptomatic Infection

An asymptomatic infection is characterized by an individual contracting the poliovirus but not displaying any apparent symptoms. Typically, those with asymptomatic polio remain unaware of their infection since they do not suffer from any sickness or impairment. Nevertheless, they can still transmit the virus to others, highlighting the significance of asymptomatic infections in the transmission of polio.

Non-Paralytic Polio

Non-paralytic polio, alternatively referred to as abortive polio or a minor illness, manifests as a less severe variation of the condition and is typified by flu-like manifestations. Such symptoms encompass fever, headache, sore throat, nausea, vomiting, fatigue, as well as muscle stiffness or pain. Unlike paralytic polio, non-paralytic polio does not result in enduring paralysis or muscular debilitation.

Paralytic 4 Polio

Paralytic polio, the most severe variant of the disease, impacts only a small fraction of individuals infected with the poliovirus. This condition occurs when the virus invades the central nervous system, resulting in inflammation in the spinal cord and brain. Paralytic polio presents itself in two forms: spinal polio, affecting the motor neurons in the spinal cord, and bulbar polio, which affects the motor neurons in the brainstem. Indications of this condition may include abrupt muscle weakness or paralysis, limp limbs, intense muscle discomfort, as well as difficulty in swallowing or breathing. Paralytic polio can lead to lasting disabilities, and in severe instances, it can be fatal **[10, 11]**.

Laboratory Tests and Diagnosis

The diagnosis of poliomyelitis requires various laboratory examinations to validate the presence of the poliovirus or identify specific antibodies in the bloodstream or cerebrospinal fluid. These tests encompass:

Viral Isolation

This involves obtaining a stool sample from the individual and attempting to isolate the poliovirus in a controlled laboratory environment. This test aids in confirming an ongoing poliovirus infection.

Polymerase Chain Reaction (PCR)

PCR tests can identify the genetic material (RNA) of the poliovirus in different samples, such as throat swabs, stool, or cerebrospinal fluid. PCR is an exceptionally sensitive and precise method for detecting the presence of the virus.

Serology

Blood tests can be conducted to detect specific antibodies produced in response to the poliovirus. The presence of these antibodies, such as neutralizing antibodies, indicates either a current or past infection.

Cerebrospinal Fluid Analysis

If paralytic polio is suspected, a lumbar puncture (spinal tap) may be performed to obtain cerebrospinal fluid (CSF) for analysis. The CSF can be examined for indications of viral invasion and inflammation within the central nervous system **[12]**.

These laboratory tests play a vital role in confirming a polio diagnosis and differentiating it from similar conditions. It is important to seek guidance from healthcare professionals for a thorough evaluation and diagnosis if polio is suspected.

TREATMENT AND MANAGEMENT

Symptomatic Care

Symptomatic care focuses on relieving the symptoms and complications associated with poliomyelitis. The following strategies may be utilized: 1. Pain management: Over-the-counter pain relievers like acetaminophen or nonsteroidal anti-inflammatory drugs (NSAIDs) can be employed to alleviate muscle pain and discomfort; 2. Rest and immobilization: Sufficient rest and immobilization of affected limbs or muscles can aid in reducing pain, inflammation, and further damage to the muscles; 3. Assistive devices: The

utilization of assistive devices such as braces, crutches, or wheelchairs can assist individuals experiencing mobility challenges in maintaining their independence and enhancing their quality of life.

Physical Therapy

Physical therapy plays a vital role in the treatment and care of poliomyelitis. Its primary objective is to preserve and enhance muscle strength, mobility, and functionality. Physical therapy interventions encompass: 1. Exercises for strengthening: These targeted exercises are specifically designed to bolster weakened muscles and enhance overall muscle function; 2. Exercises for range of motion: The aim of these exercises is to preserve or increase flexibility and the range of motion in affected joints; 3. Training for walking patterns: Gait training is beneficial for individuals experiencing difficulties with walking. It helps them improve their walking ability or effectively utilize assistive devices; and 4. Provision of assistive devices: Physical therapists are able to recommend and provide appropriate assistive devices that improve mobility and independence.

Surgical Interventions

Surgical interventions may be necessary in certain instances to address complications or rectify deformities linked to poliomyelitis. These interventions may encompass various procedures, including: 1. Orthopedic surgeries: Such procedures entail actions like lengthening tendons, transferring tendons, or fusing joints. Their aim is to enhance muscle balance, correct contractures, or stabilize joints; 2. Spinal surgeries: In severe cases featuring spinal deformities or instability, spinal fusion surgery might be deemed necessary. This procedure aims to provide stability and mitigate the risk of further complications. It is essential to acknowledge that the specific surgical interventions and their suitability will rely on the individual's condition and the recommendations of healthcare professionals.

Long-Term Management

The long-term management of poliomyelitis focuses on various aspects to maintain overall health, address symptoms, and prevent complications. These include: 1. Regular medical check-ups: It is important to have regular follow-up visits with healthcare professionals to monitor the individual's condition, identify any emerging issues, and make necessary adjustments to the treatment plan; 2. Respiratory support: Individuals with weakened respiratory muscles may require assistance in breathing. This can involve using respiratory support devices like ventilators or continuous positive airway pressure (CPAP) machines; 3. Pain management: Managing chronic pain associated with poliomyelitis can involve a combination of medications, physical therapy, and alternative therapies such as acupuncture or massage; 4. Psychological and emotional support: Poliomyelitis can have a significant impact on a person's emotional well-being. Seeking psychological support, counseling, or joining support groups can help individuals cope with the challenges they may encounter; and 5. Prevention of complications: Taking preventive measures plays a vital role in avoiding complications and improving overall health. This includes maintaining good hygiene, getting immunized against other diseases, and taking precautions to prevent falls and injuries. It is crucial for individuals with poliomyelitis to collaborate closely with their healthcare team in order to develop a comprehensive long-term management plan that addresses their specific needs and ensures their well-being **[13-15]**.

PREVENTION AND CONTROL MEASURES

Polio Vaccines

Vaccination plays a critical role in preventing and controlling polio. There are two main types of polio vaccines: the inactivated polio vaccine (IPV) and the oral polio vaccine (OPV). IPV is a vaccine administered through injections and contains deactivated poliovirus, whereas OPV is an oral vaccine containing weakened but live strains of the poliovirus. Both vaccines are highly effective in safeguarding against polio. IPV is typically given in several doses via injections, while OPV is administered orally using drops. These vaccines stimulate the immune system to generate antibodies that provide immunity against the poliovirus. Polio vaccines are commonly administered during childhood as part of routine immunization programs, with multiple doses administered to ensure long-lasting protection **[16]**.

Global Immunization Campaigns

Global efforts to immunize populations against polio are crucial for preventing and managing the disease. Collaborative initiatives involving prominent organizations such as the World Health Organization (WHO), UNICEF, and Rotary International are carried out to execute large-scale vaccination campaigns in regions where polio is still prevalent or where there is a risk of its resurgence. The primary objective of these campaigns is to ensure that every child, including those residing in remote and underserved communities, receives the polio vaccine. The implementation of these campaigns entails extensive planning, coordination, and mobilization of healthcare professionals who administer vaccinations to children. The strategies employed often involve door-to-door visits, community outreach programs, and public awareness campaigns to achieve optimal vaccine coverage. As a result of these concerted efforts, there has been a significant reduction in polio cases worldwide.

Challenges in Vaccination Programs

Vaccination programs encounter various obstacles in their endeavors to prevent and manage polio: 1. Inadequate Accessibility: Some regions affected by polio may be geographically isolated, mired in conflict, or lacking proper infrastructure. These factors pose significant challenges for healthcare workers in reaching all children; 2. Vaccine Hesitation: In certain communities, misconceptions or concerns surrounding vaccines can give rise to hesitancy. This skepticism can hinder the effectiveness of vaccination campaigns, leaving certain children vulnerable and unprotected **[17]**; and 3. Controlling Outbreaks: Prompt and effective response becomes vital in containing the spread of polio during an outbreak. The task of identifying and immunizing all susceptible individuals in affected areas is complex, necessitating efficient coordination and allocation of resources.

Importance of Surveillance

Surveillance plays a crucial role in the prevention and control of polio. Its primary objective is to systematically monitor polio cases, enabling swift detection and response to outbreaks. Through surveillance systems, data on acute flaccid paralysis (AFP), a prominent symptom of polio, is collected and analyzed to identify potential cases. This surveillance aids in pinpointing areas with inadequate vaccine coverage or missed cases, facilitating targeted vaccination efforts. Additionally, it facilitates the monitoring of different types of poliovirus strains, including wild poliovirus and vaccine-derived poliovirus, which guides immunization strategies. Furthermore, surveillance offers concrete evidence of progress in the pursuit of polio eradication. By diligently tracking cases and ensuring accurate reporting, health authorities can assess the impact of vaccination campaigns. This information empowers them to make well-informed decisions regarding resource allocation and program adjustments.

THE GLOBAL POLIO ERADICATION INITIATIVE

Goals and Strategies

The Global Polio Eradication Initiative (GPEI) is a collaborative effort involving multiple organizations such as the World Health Organization (WHO), Rotary International, the U.S. Centers for Disease Control and Prevention (CDC), UNICEF, and the Bill & Melinda Gates Foundation. Its primary objective is the complete eradication of poliomyelitis worldwide. To achieve this aim, the initiative has devised the following strategies: 1. Routine immunization: Ensuring that all children receive the recommended polio vaccines as part of regular immunization programs; 2. Supplementary immunization activities (SIAs): Implementing large-scale vaccination campaigns in high-risk areas to target every child under the age of five, often through door-to-door visits; 3. Surveillance and outbreak response: Enhancing surveillance systems to swiftly identify any new polio cases and taking immediate action to control outbreaks; and 4. National and global coordination: Strengthening collaboration among countries and partner organizations to ensure the effective execution of polio eradication efforts.

Progress and Achievements

The Global Polio Eradication Initiative (GPEI) has made remarkable strides in its mission to eliminate polio. Since its inception in 1988, the initiative has successfully diminished the number of countries plagued by polio from 125 to a mere two, namely Afghanistan and Pakistan. The following notable accomplishments have been achieved: 1. Decline in polio cases: The worldwide incidence of polio cases has plummeted by more than 99%. In 2020, a mere 122 reported cases were recorded globally; 2. Certification of polio-free regions: The World Health Organization (WHO) has officially certified five out of its six regions as being free from polio. This noteworthy milestone indicates the complete eradication of the wild poliovirus from these regions; 3. Effective vaccination campaigns: The GPEI has successfully executed numerous vaccination campaigns, providing polio vaccines to millions of children. These concerted endeavors have significantly curtailed the transmission of the poliovirus.

Challenges Encountered

Despite significant progress, the global eradication of polio still faces several persistent challenges: 1. Afghanistan and Pakistan are the only remaining countries where indigenous cases of wild poliovirus transmission persist. These countries encounter unique difficulties such as insecurity, weak healthcare systems, and resistance from communities; 2. In rare instances, the attenuated live virus used in the oral polio vaccine can mutate and give rise to cases of vaccine-derived poliovirus. The Global Polio Eradication Initiative (GPEI) faces the challenge of containing and halting outbreaks caused by VDPVs; 3.: Some areas, particularly those affected by conflicts or located in remote regions, remain inaccessible for vaccination campaigns. This inaccessibility poses a significant hurdle in ensuring that all children receive the necessary vaccines; 4. In certain communities, hesitancy towards vaccines and the presence of misinformation present obstacles to successful immunization campaigns. This can result in low vaccine coverage and increase the risk of potential outbreaks **[18, 19]**.

SOCIETAL IMPACT AND REHABILITATION

Psychological and Social Consequences of Poliomyelitis

Poliomyelitis, commonly known as polio, can lead to significant psychological and social ramifications for individuals affected by the illness.

Here are some of the primary consequences: 1. Emotional turmoil: People who have survived polio may experience emotional distress as a result of the physical limitations imposed by the disease. Dealing with the loss of mobility and independence can generate feelings of frustration, anger, anxiety, and depression; 2. Social seclusion: The physical disabilities caused by polio can result in social isolation. Individuals may encounter difficulties participating in social activities, attending school, or maintaining employment, thereby impacting their overall social interactions and relationships; 3. Stigma and discrimination: In certain instances, polio survivors may face stigmatization and discrimination due to their noticeable physical impairments. This can lead to negative attitudes, exclusion from society, and limited opportunities for education and employment; and 4. Body image concerns: Physical impairments associated with polio, such as limb deformities or muscle weakness, can affect an individual's body image and self-esteem. They may experience self-consciousness or encounter challenges in accepting their altered appearance.

Rehabilitation Programs

Rehabilitation plays a vital role in assisting individuals affected by poliomyelitis in reclaiming their functional independence, enhancing their quality of life, and addressing the psychological and social repercussions. The rehabilitation programs for polio survivors encompass various approaches: 1. Physical therapy: Physical therapy focuses on improving muscle strength, flexibility, and mobility. Therapists employ exercises, stretching techniques, and assistive devices like braces or orthotics to enhance functional abilities; 2. Occupational therapy: Occupational therapy aids individuals in acquiring the skills necessary for daily activities such as self-care, work, and leisure. It emphasizes adapting environments and teaching alternative techniques to maximize independence; 3. Utilization of assistive devices: Polio survivors can benefit from employing assistive devices like crutches, canes, wheelchairs, or mobility scooters to enhance mobility and facilitate engagement in everyday tasks; 4. Orthopedic surgery: In certain cases, orthopedic surgery may be recommended to rectify skeletal deformities resulting from polio, such as leg length discrepancies or scoliosis; and 5. Psychological support: Mental health professionals offer counseling and support to address the emotional and psychological effects of polio. They assist individuals in developing coping strategies, managing stress, and enhancing overall well-being **[20]**.

Supportive Measures

To address the societal consequences of poliomyelitis and provide assistance to individuals affected by the disease, various measures can be implemented: 1. Accessibility: Ensuring that public spaces, buildings, transportation, and educational institutions are accessible is essential for enabling full societal participation of polio survivors. This entails the provision of ramps, elevators, accessible toilets, and designated parking spaces; 2. Inclusive education: Promoting educational practices that are inclusive and cater to the needs of students with disabilities, including those resulting from polio, can facilitate quality education and foster social integration; 3. Employment support: Offering vocational training and programs that provide employment support can assist polio survivors in developing skills and securing meaningful job opportunities. Workplace adaptations and accommodation should be provided to ensure equal employment prospects; 4. Community awareness: By raising awareness about polio and its impact, it is possible to reduce stigma, discrimination, and social isolation. Educating the public can foster empathy, understanding, and inclusivity; and 5. Support groups and networks: Establishing support groups and networks for polio survivors enables individuals to connect, share experiences, and provide emotional support. These communities can help alleviate feelings of isolation and serve as platforms for advocacy and empowerment.

It is important to acknowledge that advancements in vaccination programs have substantially reduced the occurrence of polio worldwide. Nevertheless, it is still relevant to address the long-term consequences for individuals who contracted the disease prior to widespread vaccination efforts, necessitating ongoing support and rehabilitation initiatives to cater to their needs.

POLIO AND POST-POLIO SYNDROME

Definition and Symptoms of Polio

Polio, or poliomyelitis, is a highly infectious viral disease caused by the poliovirus. It primarily impacts the nervous system, specifically targeting the spinal cord and brainstem. The transmission of the poliovirus occurs through person-to-person contact, primarily through the ingestion of contaminated food or water or the fecal-oral route.

Polio infections manifest in three different forms: subclinical, non-paralytic, and paralytic. Most polio infections (approximately 90-95%) are subclinical, meaning they exhibit no discernible symptoms. Non-paralytic polio, which accounts for roughly 4-8% of cases, presents flu-like symptoms such as fever, sore throat, headache, vomiting, fatigue, and stiffness in the neck and back **[21]**. Among the various forms, paralytic polio is the most severe, affecting approximately 1-2% of cases. It can result in muscle weakness, partial or complete paralysis, and, in some cases, fatality. Paralytic polio can also impair the muscles involved in breathing, leading to respiratory difficulties.

Management and Treatment of Polio

Although there is no cure for polio, its prevention can be achieved through vaccination. The polio

vaccine has proven to be highly effective and has played a significant role in reducing the global prevalence of the disease. When it comes to managing polio, the focus is on providing supportive care to alleviate symptoms and prevent complications. This typically involves the following approaches **[22, 23]**: 1. Bed rest: During the acute phase of the illness, it may be necessary for individuals to rest in bed. This helps reduce strain on affected muscles and promotes recovery; 2. Pain relief: Over-the-counter pain relievers like acetaminophen or ibuprofen can be used to alleviate symptoms such as fever, headache, and muscle pain; 3. Physical therapy: Rehabilitation exercises and physical therapy are essential for individuals to regain strength, mobility, and function after the acute phase of polio. Personalized exercise programs designed by physical therapists can enhance muscle strength and flexibility; 4. Assistive devices: Depending on the extent of residual weakness or paralysis, individuals may require assistive devices such as braces, crutches, wheelchairs, or orthopedic surgery to support their mobility and independence; and 5. Respiratory support: In severe cases where the respiratory muscles are affected, mechanical ventilation or breathing assistance may be necessary to ensure proper oxygenation.

CONCLUSION

Poliomyelitis, also known as polio, is an extremely contagious viral illness that predominantly affects children under the age of five. It is transmitted through contaminated water and food, as well as close contact with infected individuals. The primary target of the virus is the nervous system, and in severe cases, it leads to paralysis.

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