



Broad Perspectives of Rehabilitation from Medical, Social, Educational and Historical Points of View

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Abstract

Wider perspectives of rehabilitation have been introduced, for medical, vocational, social, and educational areas. Nicolas Andry made the word of orthopedie for orthos (straight)+Paedios (child) and Clement Tissot wrote "Medical and Surgical Gymnastics" leading to rehabilitation. There are 3 aspects of vocational, social and educational rehabilitation. The root of the word "rehabilitation" includes habilis, which means handy, hands, skillful or making/using tools. Homo Habilis evolved to Homo Erectus, leading to Home Sapiens. Rehabilitation means historical restoration of honor, where the episodes of Jeanne d'Arc and Galileo Galilei are known. This article hopefully becomes references in medicine, history and literature.

Keywords: Rehabilitation; Restoration; Nicolas Andry; Clement Tissot; Homo Habilis; Jeanne d'Arc; Galileo Galilei

Commentary Article

The word "rehabilitation" has been used mainly in physical medicine or rehabilitation medicine. In recent years, however, wider perspectives of rehabilitation have been introduced. In this article, several topics concerning rehabilitation will be described. The word rehabilitation was firstly used during World War I, when the Army established "Physical Reconstruction and Rehabilitation Department" for the people who were injured [1]. The former was for training, and the latter was for the reintegration facility into society and work. For decade, the concept of total rehabilitation has been introduced, which has mainly four categories. They are medical, vocational, social, and educational areas [2]. Recently, novel field of engineering has been developed, including various constructions, such as houses, stations, buildings, medical facilities and so on. These related factors have horizontal and vertical collaboration. The former is to receive multiple services in some different facilities. For the latter, smooth transition from hospital to rehabilitation facility, and occupational to social rehabilitation have become crucial points to be discussed [3].

There are two similar technical terms, total rehabilitation and medical rehabilitation [4]. Medical rehabilitation includes four

categories, which are physically handicapped, visually impaired, deaf and mentally handicapped [5]. For the history of rehabilitation, Nicolas Andry proposed the novel word of orthopedie in the book "L'Orthopedie" in 1741. It means orthos (straight) + Paedios (child) [6]. French physician Clement Tissot wrote the well-known book "Medical and Surgical Gymnastics" (Tissot's *Gymnastique Médicinale et Chirurgicale*) in 1780 [7]. This concept represented the importance of practice various movements. After the 20th century, the radiology department became independent from physiotherapy department that was mainly in the United States. In World War II, early ambulation for patients with various operation was proposed. At that time, those clinical effects were recognized for actual clinical practice. Medical system of specialists in physical medicine and rehabilitation had begun in 1951 [8]. From these changes, a variety of novel trials have revealed progress in rehabilitation category. Regarding the fields of rehabilitation, there are 3 aspects of vocational, social and educational rehabilitation. Firstly, the International Labor Organization (ILO) defined in 1955 that vocational rehabilitation was designed to secure and maintain employment for the persons with disabilities [9]. In 1973, employment was shown to be in a broad sense, including self-

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employment, domestic work, agriculture, domestic work, protective employment, and home employment. Secondly, social rehabilitation is defined and related to the social science and medical practice. It is a life process that aims to acquire social functioning ability [10]. Thirdly, educational rehabilitation involves three types of education. They are for school children from elementary to high school, university students, and adults [11]. Among them, multidisciplinary-based rehabilitation (MBR) has revealed effective method for the evidence-based research [12]. The root of the word “rehabilitation” includes *habilis*. Some characteristic words have been known for human, including *habilis*, *sapiens* and *ludens*. These perspectives are explained in the following. *Homo Sapiens* means knowing human or wise human by Latin. It has bipedal primate which originated about 200 thousand years ago in Africa [13]. It could understand language, emotion and abstract reasoning. In the category of human taxonomy, *Homo sapiens* as binomial name was proposed in 1758 by Carl Linnaeus, who was well-known taxonomist, botanist and physician. It means sapient or intellectual man. Historically speaking, the common name of human species was “man” in English, while it was often replaced by “human” in Latin since 16th century. *Homo Ludens* was the name of the book that historian Johan Huizinga wrote in 1938 [14]. It indicated that the play would be the primary element for human being. The word “*ludens*” means play, sport, practice and school that has no equivalent English word [15].

Homo habilis was one of the extinct human species in East and South Africa during 2.3 million to 1.6 million years ago [16]. The word “*habilis*” means handy, hands, skillful or making/using tools. *Homo Habilis* was estimated as a human ancestor, which evolved into *Homo erectus* leading to modern human species. From etymological point of view, the root of the word “*habilis*” means the condition of suitable for humans. Rehabilitation is made of re-(again) + *habilis*- (human, identity, position) + -ation (condition). Consequently, rehabilitation seems to show the following situation. When a person falls into “unsuitable state” for some reason, it returns to the previous stable state.

Historically, the word rehabilitation has existed since the Middle Ages in Europe [17]. Its implication was the restoration of status for kings and nobles, and the cancellation of excommunication in religious circles. Later, other perspectives were added such as restoration of honor, restoration of rights, revocation of innocent crimes and so on. In recent years, additional cases were observed including the social reintegration of criminals, the reintegration of politicians into the political world, and other correction from various situation. Some examples of these reinstatements are introduced as follows.

The most famous episode was the rehabilitation of “Jeanne d'Arc (Joan of Arc)” [18]. The Maid of Orléans (*la Pucelle d'Orléans*) made great achievements in the Hundred Years' War of 14th-15th

century between England and France, leading to the struggling French army to victory [19]. However, she was subsequently excommunicated as a “heretic” by the Inquisition of 1431, and she was dead at the age of 19. Afterwards, her French army was victorious, and the Inquisition of 1456 acquitted her of her innocence. The redo trial after 25 years is called the reinstatement trial (rehabilitation trial). In 1920, she was canonized as a “Saint” by the Pope. No other restoration of her honor has been observed like this. The other is the rehabilitation of Galileo Galilei [20]. He was ordered by the Inquisition in 1634 to cancel the heliocentric theory. A review of the Inquisition began in 1965 and continued for long. In 1992, Pope John Paul II canceled a 350-year-old interrogation and apologized by visiting Galileo's tomb [21]. This was also a restoration for hundreds of years.

In summary, several perspectives concerning rehabilitation were described here. This article will hopefully become references in the light of medicine, history and literature for future research.

Conflicts of Interest

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