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Original Article

Dental Health Relevant to Hedonic and Eudaimonic Wellbeing

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Abstract

There is scarce literature linked to wellbeing including hedonic and eudaimonic wellbeing in dentistry. Specifically, regarding dental diseases, pain and irritable feeling in person cause hedonic wellbeing, while, serious pain causes not only hedonic but also eudaimonic wellbeing because of malnutrition, insomnia, growth and development.

Moreover, severe pain leads to lower physical activity, diminishing learning abilities and aggravating the absence of school.

In addition, children's bad condition gives a serious impact on parent's work condition due to visiting dentist with children. Furthermore, a high level of tooth decay incurs in a crucial risk of hospitalization.

Concerning periodontal disease, bleeding tooth movability in person cause hedonic wellbeing and bad breath brings about eudemonic as well as hedonic wellbeing owing to unpleasant smell in surrounding areas.

Objectives: Wellbeing comprising hedonic and eudaimonic theories with oral health is unveiled.

Methods: Two point of views based on hedonic and eudaimonic approach are implemented. Additionally, dental health is divided into three parts, tooth decay, periodontal disease and tooth loss. As a result, they can compare to three categories.

Results: It was indicated that tooth decay, periodontal disease and tooth loss have a great influence on hedonic and eudaimonic wellbeing.

Conclusions: Oral health has a robust integration to general health and wellbeing. In consequence, good oral health can advance eudaimonic and hedonic wellbeing. Eudaimonic wellbeing can enhance personal growth, promote positive relationships and purpose in life (achievement of goal), while hedonic wellbeing can promote hope, joy and pride (pleasure fulfilment).

Keywords

Hedonic, Eudaimonic, Wellbeing, Dental, Health

Introduction

Aristotle (384-322 B.C.) introduced the concept of eudaimonia. In terms of Aristotle, eudaimonia is an activity (*energeia*), not a state of mind, and an activity in agreement with virtue (*kat'areten*), worked over a lifetime in the existence of a sufficient number of external goods. Therefore, eudaimonia is something substantially different from ordinary happiness, realised mainly as a state of spiritual satisfaction that is free from moral values. Eudaimonia ("happiness, "flourishing"), and turn to an examination on the nature of *arete* ("virtue", "excellence") and the character traits that human beings need in order to live life at its best [1].

Although the current hedonic idea exists, a majority of philosophers, religious authorities, visionaries all over the world have substantially disclaimed happiness as a fundamental norm of wellbeing relevant to eudaimonia. Aristotle

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regarded hedonic happiness as a vulgar idea. He pointed out that true happiness can be expressed as virtue and namely, is to do what is worth doing [2].

Wellbeing is referred to in a wide variety of backgrounds and with various meanings comprising physical, social and psychological dimensions. Wellbeing is a positive physical, social and mental condition [3].

Additionally, people can take part in society, build up supportive personal relationships, strong and inclusive communities, good health, financial and personal security as well as a healthy and attractive life. Psychological wellbeing is a significant component of both mental and physical health [3].

Research has found that mental wellbeing can have a distinctive influence on enhancing physical health and promoting life expectancy [4].

Concerning hedonic wellbeing, hedonic wellbeing is the absence of negative emotion and pain. Accordingly, as transient tooth pain and gum swelling cause discomfort and irritation, ameliorating pain and swelling bring about a comfortable and an appropriate mastication. Therefore, alleviation of these symptoms can promote hedonic wellbeing (pleasure).

On the other hand, regarding eudaimonic wellbeing (achieving a goal or a moral life), eudaimonic wellbeing is doing what is worth doing [2]. Severe or serious pain and swelling could cause insomnia resulting in or a lack of sleep, malnourishment and an absence of school and work. These situations incur in the deterioration of eudaimonic wellbeing. Consequently, the improvement of health problem can lead to the progression of eudaimonic wellbeing.

Good oral health is defined as not just the absence of disease but the sufficient ability to employ the mouth for daily life including communication tools such as smiling, speaking as well as eating functions such as tasting, swallowing, chewing and touching [5,6].

Further attributes related to the definition state that oral health: is a fundamental component of health and physical and mental wellbeing. It exists along a continuum influenced by the values and attitudes of individuals and communities; reflects the physiological, social and psychological attributes that are essential to the quality of life; is influenced by the individual's changing experiences, perceptions, expectations and ability to adapt to circumstances [5].

The World Health Organization (WHO) appreciates that oral health is essential to general health and considerable for wellbeing including hedonic and eudaimonic wellbeing. Healthy teeth or sound oral health lead to hedonic wellbeing like sustaining relaxation and comfortable feelings as well as eudaimonic wellbeing such as enhancing eating, speaking and socialization [7].

In addition, mastication is essential for us to sustain health as well as wellbeing [8]. However, older people have an experience of tooth loss or TL. The people in this situation need to visit a dentist to recover their masticatory function.

Though dental knowledge and technology relating to the diagnosis of treatment have greatly advanced, a few articles relating to oral health and wellbeing can be found [9]. There is a huge amount of research as well as articles on dentistry. However, there is scarce literature linked to wellbeing including hedonic and eudaimonic wellbeing [10].

Moreover, oral health including oral and dental treatment has a significant impact on hedonic and eudaimonic wellbeing. Specifically, if children feel pain when they suffer from tooth decay or TD, they cannot concentrate on their studies or sleep well therefore, their health suffers. Some children might have a poor appetite because of oral health problems. As a result, this might have an effect on their general wellbeing including hedonic and eudaimonic wellbeing.

Furthermore, symptoms of periodontal disease or PD can be seen as bleeding, swollen gums, persistent bad breath or bad taste in the mouth. Patients with more advanced PD have TL.

Additionally, Oral health and well-being in the United States indicated that elderly people who have lost their teeth could become malnourished and irritated because they cannot eat sufficiently. Consequently, people with TL can have serious health and hedonic and eudaimonic wellbeing problems [11].

PD might have an impact on diabetes, making blood sugar control more difficult [12]. On the other hand, people with diabetes could develop a serious PD and are likely to have higher blood sugar levels than those with healthy gums [13]. Since PD seems to cause systemic diseases such as diabetes, both dental and medical treatment is needed.

Oral health has a robust integration to general health and wellbeing. In consequence, good oral health can advance eudaimonic and hedonic wellbeing. Eudaimonic wellbeing can enhance personal growth, promote positive relationships and purpose in life (achievement of goal), while hedonic wellbeing can promote hope, joy and pride (pleasure).

Thus, this essay will highlight the significant relevance of oral health including TD, PD, TL. The aim of this study shows that the relation to wellbeing comprising hedonic and eudaimonic wellbeing with oral health will also be unveiled in this article.

Methods

Research method is a quantitative approach. The information or knowledge of Public Medline (PubMed), World Health Organization (WHO), National Health Service (NHS) and British Dental Association (BDA) are investigated to find out aspects, issues and factors that affect hedonic and eudaimonic wellbeing with oral health.

Two point of views based on hedonic and eudaimonic approach are implemented. Additionally, dental health is divided into three parts, TD, PD and TL. As a result, they can compare to three categories.

In detail, relating to information retrieval, thirty-two searches with different key words for various articles which contained information with a relationship between dental

Table 1: Dental symptoms relevant to hedonic and eudaimonic wellbeing.

Symptoms	Hedonic wellbeing	Udaimonic wellbeing
Pain	x	
Irritable feeling	x	
Swelling	x	x
Unpleasant smell	x	x
Insomnia	x	x
Malnutrition		x
Growth & development		x
Parent's work		x
Physical appearance		x

or oral health and hedonic as well as eudaimonic wellbeing were carried out. Specifically, tooth decay, decayed tooth, dental caries, dental decay (4 items) or periodontal disease, gum disease, gingivitis, periodontitis (4 items) and tooth loss, missing tooth (2 items) multiple (x) hedonic and eudaimonic wellbeing (2 items) = 32 ways. After finding these articles, the appropriate articles were selected.

Results

It is indicated that the symptoms relevant to TD, PD and TL have a great influence on hedonic and eudaimonic wellbeing.

Pain and irritation relating to TD and PD affect hedonic wellbeing (**Hedonic wellbeing x**), serious pain affects not only hedonic but also eudaimonic wellbeing (**Hedonic wellbeing x, Udaimonic wellbeing x**) because of malnutrition, insomnia, growth and development (Table 1).

There are the symptoms such as a lack of mastication and physical appearance (**Udaimonic wellbeing x**) on TL. Eudaimonic as well as hedonic wellbeing can be seen various symptoms relating to TD, PD and TL (Table 1).

Discussion

Regarding TD and wellbeing, according to the NHS England Improving Dentistry [14], a dental diagnosis for treatment showed TD is the highest figure (over 100,000 cases) than any other problem, such as PD (under 20,000 cases) and other dental disorders. According to the RCS [15], approximately, a third of five-year-old children and a third of adults in England are still suffering from TD.

To be concrete, there is a regional and socio-demographic difference in oral health around the UK [16]. However, the number of patients accessing NHS dentistry has increased steadily since 2008. Accordingly, patient experience of NHS dentistry has improved in current times [14].

The BDA [17] describes that socio-economic causes are regarded as being essential determinants of oral health inequalities. The factors include deprivation, age, gender ethnicity, environment, psycho-social elements, poverty and life style. The statistics revealed a significant variation across England, both geographically and socioeconomically. On the whole, dental health is better in the south and east of England, and poorer in the north of England [14].

It is essential for prevention of TD for children to maintain healthy teeth. Accordingly, children should visit a special dentist for children. When a child visits a general dentist, he or she might go through a psychological trauma such as anxiety of getting an injection or of having had a dental impression and therefore want to avoid visiting a dentist for a long time [18]. Accordingly, the specialised services of a paediatric dentist might be required.

However, compared to other countries such as America and Canada, the United Kingdom lately has comparatively few specialized paediatric dentists [19]. Therefore, increasing the number of specialised dentists might be needed and imply to self-related method to prevent TD. Specifically, an appropriate mouth cleaning, routine tooth brushing and dental flossing are most useful to prevent TD [14].

Moreover, it is significant to visit the dentist as quickly as possible to be given suggestions on good oral hygiene and to receive fluoride varnish with free prevention [20].

More multidisciplinary workers should encourage collaboration between health, local authority and voluntary organizations to challenge inequalities [17].

Furthermore, the BDA is likely to advocate an interdisciplinary education or team approach and not to limit areas with poor oral health.

TD has a substantial impact on wellbeing during childhood. Untreated TD can cause not only infection but also pain and an irritation. As a result of this uncontrollable condition, children might reduce their food intake [7,21]. Additionally, extensive TD can have an effect on wellbeing as well as children's growth and development. Severe pain leads to disturbance of sleep and insomnia and also the disturbed sleep might affect growth hormones. Furthermore, a high level of TD could bring about a serious risk of hospitalizations, emergency dental visits, lower physical activity and therefore diminish learning abilities and aggravate the absence of school [7]. Moreover, toothache has a significant effect on children's educational level as well as family's financial condition. In a dental research [21,22], parents recognised dental treatment had advanced social influences on their children, enhanced school performance and fostered social interaction.

TD, involving severe pain as well as serious swelling around the mouth results in interrupting mastication and aggravating physical appearance. In consequence, the lack of individual and social contentment might occur because of malnutrition and feeling unattractive. Accordingly, improving these situations can lead to promoting not only hedonic but also eudaimonic wellbeing.

Concerning PD and wellbeing, PD is a chronic gum inflammation which is highly prevalent in adults all over the globe and severe PD generally ranges between 10% and 15% [23]. However, if PD is not serious, it can be improved and treated with regular and attentive home care. According to [13], nearly half of adults and 60% of those over 65-years-old were

affected by PD in the UK in years.

Chronic serious PD is a more severe type of gum disease that ruins the tissues that support the teeth and connect the bone to the jaw, it can cause tooth loss. This disease might affect half of British adults and this proportion might increase as age rises.

These can be roughly classified into two categories such as control factors and uncontrolled factors. Chapple, et al. [24] indicate the control factors include smoking, poor oral hygiene, as other medical conditions connected with PD, hormonal changes, diabetes mellitus, medication and stress. The uncontrolled factors counted age and heredity.

Moreover, solid ground research reveals the deep relation between PD with systemic diseases including cardiovascular, metabolic diseases. It has become increasingly unquestionable that oral bacteria can diffuse to remote parts of the body [25].

A great amount of epidemiological research has entailed that dental infection particularly, PD might be a dangerous disease. PD can cause focal infection. In other words, bacteria which persist in the gum can infect a focus such as the heart, brain and lungs [26]. According to Wilson [27], the mouth and body are integral to each other and emphasises the significance of the integration between oral health and general health of wellbeing.

Tonetti, et al. [28] claim that PD might substantially impact the quality of life and wellbeing. Through inflammation and destruction of periodontal tissues, PD can cause a wide variety of clinical manifestations such as bleeding, tooth movability, receding gums, bad breath and toothache which might have a considerable effect on daily life and wellbeing [29]. There was decreasing health conditions in quality of life and wellbeing as the number of teeth with gingival pocket depth and bone loss deteriorated. In other words, not only those with generalized but also localised forms of PD have worse quality of life and wellbeing. In consequence, it is conceivable that periodontal treatment ameliorates the quality of life and wellbeing [28].

How can wellbeing help increase in quality of life? Specifically, Vaziri, et al. [30] demonstrate the mean quality of life score was considerably lower in patients with serious PD compared to patients with mild PD especially in terms of psychological factors and wellbeing.

According to the impact of severity of PD on quality of life, government intervention should be conducted for early diagnosis and treatment to enhance oral health, quality of life and wellbeing [28].

Severe PD can cause systemic diseases. Encouraging regular tooth brushing, flossing and mouth rinsing can prevent gum disease or PD. Moreover, discontinuing drinking alcohol and smoking tobacco can improve healthy gums. Accordingly, promoting healthy gums can lead to enhance both hedonic and eudaimonic wellbeing.

As for TL and wellbeing, the UK is confronted with greater changes in not only the number of the elderly but also the oral health condition of this population in the UK. The proportion of the elderly population is currently growing steadily, at the same time the number of their own remaining teeth is increasing at levels not seen since 1968 [31]. Specifically, Steele, et al. [31] gives comparable data on British oral health between 1968 and 2009 in the UK. In 1968, 37% of adults in England and Wales were people who had lost their natural teeth. By 2009, only 6% of the incorporated population in England, Wales and Northern Ireland were toothless.

A representative sample of older adults aged from 71 to 92 between 2010 and 2012 in the UK. Among 1660 men clinically examined, 338 (20%) were TL and a further 728 (43%) had less than 21 teeth [32].

The aging process causes an increase of chronic oral diseases and physiological oral transformations lead to exacerbation not only oral functions but also social and psychological wellbeing [33]. However, psychological wellbeing of oral health has been indicated to be stable overtime if clinical oral health conditions do not exacerbate [34].

Additionally, the findings of the Adult dental health survey or ADHS [35] demonstrate that most people in Britain seem to be maintaining 20 or more of their teeth. Maintaining 20 or more teeth developed as a substantial element in determining the effects of oral health in quality of life and wellbeing [36]. Wide variety of research has determined that a minimum of 20 functional teeth are needed to guarantee sufficient mastication.

In addition, Bernabe &Seiham [37] uncover that total TL decreased by 80% for the highest social class and 48% for the lowest class (Social class groups are categorized into 5 groups including i) Managerial and technical; ii) Skilled non-manual; iii) Skilled manual; iv) Partly skilled and v) Unskilled. More attention should be preventing dental diseases at all stages of the life.

TL including pain, mucosal infections can lead to a deterioration of quality of life and wellbeing. Moreover, oral problems have a substantial influence on the life satisfaction and wellbeing of older people [38]. Accordingly, a stable and regaining upper or lower denture with appropriate mastication provides an optimum circumstance for oral function with the highest level of oral health relating to wellbeing in the elderly population [34].

Vulnerable older people with insufficient oral health can lead to communication difficulties. When suffering from a serious oral problem that alters facial appearance, a patient can be affected by low self-confidence. Speech problems might reduce communication and influence psychological wellbeing such as stress. A limitated ability to eat nutritious food such as a fiber, fruit and vegetables can bring about dehydration and general health problems such as anaemia [39]. These people can be led to deterioration of quality of life and wellbeing including depression and social exclusion.

Most generally reported health problems in Britain were physical pain (30%) and psychological discomfort (19%), 33% of adults nationally mentioned difficulties connected to oral

health, 21% with eating, 15% with smiling, 13% when cleaning their teeth [35]. Therefore, it might be essential for people to be aware of early detection and treatment of oral disease. What is more, the government should need to reduce inequalities in oral health. After conducting these actions, quality of life and wellbeing for oral health can ameliorate or improve.

Serious periodontal disease brings about TL. Moreover, severe TL can incur in a lack of mastication and physical appearance. These situations deteriorate chewing and biting as well as aesthetics. Improvement of TL can help masticate better and contribute to a greater acceptance of not only society but also individual. Therefore, sufficient mastication and improved appearance can boost hedonic and eudaimonic wellbeing.

Conclusion

Oral health is a significant factor of general health and wellbeing. Additionally, oral heath can enhance physical, mental and social health and highlights the general risks that affect general as well as oral condition [40].

Dental visits, brushing, diet is greatly connected with oral health outcomes and wellbeing. Children who attend a dentist for check-ups indicated better oral health, lower prevalence of toothache and better oral health related to quality of life and wellbeing.

Consumption of sugary drinks four or more times a day was related to the increased possibility of TD. Oral health of children influenced their family life, most frequently by the need to take time off work, the child requiring more attention, or the parents feeling stressed, anxious or guilty.

Oral cavities can predict the presence of systemic diseases because of severe TD, PD and TL which are ordinarily an ageing characteristic. Systemic diseases can have a serious impact on oral health and holistic dental treatment is needed, likewise poor oral health can affect general health as well as wellbeing including hedonic and eudaimonic wellbeing because it incurs insufficient longer satisfaction or happiness.

Dentists have an essential part to play in sustaining the general and oral health of the country. Committees of dental services need to approach suitable dental public health to obtain support of tactics to improve inequality situations in oral health relating to general health to promote holistic patient care.

In addition, dentists and the dental interdisciplinary team should support prevention and advise patients follow a healthy diet and discreet alcohol usage as well as refraining from smoking.

What is more, government policy should take the initiative of stressing the prevention of oral diseases as well as advancement of oral health by assisting to reduce inequalities. To progress with these approaches, dental professionals should be more integrated with health services to give patients comprehensive and holistic care. Additionally, the main target should be the serious vulnerable commonalty in society such as children and adults with disabilities and impairments [17].

Moreover, carrying out invaluable quality research is indispensable to determine the effectiveness of interventions. These needs to be adjusted and included among stakeholders involved in public health policy-making [17].

Furthermore, oral diseases including TD and PD should be made an innovating project between NHS and dental professionals. Additionally, preventive programmes for TD and PD could interrupt the extent of other chronic diseases.

Cost-effective tactics would also cultivate interdisciplinary cooperation among national, local government and society as well as dental professionals. Thus, maintaining healthy teeth and gums has a positive financial influence and can foster quality of life and general wellbeing [24].

Wellbeing is a positive bodily, gregarious and psychological condition. Hedonic wellbeing is positive emotion, amelioration of tooth or gum pain, while, eudaimonic wellbeing is fulfilment or moral satisfaction, good taste or chewing. Therefore, making remarkable or sufficient effort by various sections including government, NHS, local government, Committees of dental services, dental professionals can bring about promoting hedonic and eudaimonic wellbeing.

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