



Recent Perspectives on Social Frailty and Related Issue for the Elderly

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Abstract

Current situation has brought many people less physical and social activities across the world. Consequently, there has been some concern about the exacerbation of frailty, especially in the elderly. The problems for the elderly have oral frailty (OF), social frailty (SF) and physical frailty (PF). PF subdomains are slow gait speed, weakness, exhaustion, low activity and weight loss. Social frailty criteria have 7 factors including living alone, no education, absence of confidence, infrequent contact, infrequent social activities, financial difficulty, and socioeconomic deprivation. As useful index for social frailty, Social Frailty Index (SFI) and Tilburg Frailty Indicator (TFI) will be recommended.

Keywords: Social frailty (SF); Physical frailty (PF); Social Frailty Index (SFI); Tilburg Frailty; Indicator (TFI); Survey of health aging retirement in Europe (SHARE)

Introduction

Currently, the pandemic of COVID-19 has spread worldwide and become a crucial problem. In particular, activities are restricted as lockdown. Among them, there is concern about the exacerbation of frailty, especially in the elderly [1]. It is reported that the elderly was exacerbated of frailty in 6 months. This article describes recent topics of social and physical frailty. As to the recent report of social frailty, the protocol was prospective cohort study, in which survey forms were sent to 1953 elderly people [2]. Among them, 593 forms returned without missing description were analyzed (78.8 years in mean age, 77.4% females). The survey was conducted twice 6 months apart. As a result, prevalence of pre-frail/frail was 55.0%/7.9% and 57.3%/11.8% around June/December 2020, respectively. Consequently, frailty transition ratio was calculated as 9.9%, from robust/pre-frail to frail level. Thus, frailty increase may be related to COVID-19.

For elderly people, the changes in physical activity (PA) were compared during January and April 2020. The participants (n=1600) were 74.0 years in average with female 50%, and frailty 24.3% [3]. Consequently, total PA showed a significant decrease from 245 to 180 minutes in median. It suggested higher disability development in future. A meaningful study was reported to clarify mutual relationships among PA, oral frailty (OF) and social frailty

(SF) [4]. Subjects were 682 community-dwelling elderly people aged ≥ 65 years. By logistic regression analysis, significant associations were found between OF and decline in SF, PF and nutritional state. For path analysis, direct relationship was observed in SF and OF, and OF/SF and PF. Consequently, SF decline may directly bring decline in OF and PF. A recent study was found whether PF predicts SF [5]. Cases included 342 socially robust elderly following 4 social domains, including living alone, financial difficulties, social activity and contact with neighbors. Analyses with these domains did not show significant difference of risk factors. However, SF was significantly increased using two social subdomains (adjusted Relative Ratio, aRR: 1.78). They are slow gait speed (aRR: 3.41) and weakness (aRR: 1.06). For physical frailty, five factors were assessed according to Fried phenotype [6]. They are slow gait speed, weakness, exhaustion, low activity and weight loss. Similarly, the association between PF subdomains and OF was demonstrated for 380 elderly aged >65 [7]. In primary analysis, PF risk showed association with OF (OR: 2.40). In secondary analysis, gait speed had association with OF (OR: 0.85).

Regarding SF, it does not have generally accepted definition. However, it is often evaluated as at least two items as no contact with family, rarely visiting friends and going out infrequently [8]. Some studies are known for adequate evaluation criteria. The

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Questionnaire of social frailty shows the following 5 inquiries [9]. They are i) going out less frequently compared with last year, ii) sometimes visiting your friends, iii) feeling you are helpful to friends and family, iv) living alone, v) talking with someone every day. SF criteria include the following 7 factors, including living alone, no education, and absence of confidence, infrequent contact, infrequent social activities, financial difficulty, and socioeconomic deprivation [10]. SF phenotype shows the following 7 factors, which are living alone, contact with family and/or friends and/or neighbors less than once a week, lack of a person to help with ADL, infrequent contact (self-reported variable), absence of a confidant, lack of support for daily living during the past 3 months [11]. SF has been rather unexplored concept. For scoping review, 42 papers related to SF were analyzed from scientific databases [12]. The results showed that SF may be defined as a continuation of risks of losing some resources which are crucial for fulfilling fundamental social requirements during the life span. Concepts of frailty have various aspects, then there have been different methods which cover distinct dimensions. Regarding the research on SF, 27 assessment tools were investigated [13]. Among them, most common components from various frailty instruments included 5 factors. They are social activities, social support, social network, loneliness and living alone.

There is a latest report of the Survey of Health Aging Retirement in Europe (SHARE). It investigated the contribution of the changes from social isolation to frailty in 27,468 cases aged >60 years [14]. The ratio of baseline and two years later are as follows: i) robust: ii) pre-frail: iii) frailty are 47.6%: 41.6%: 10.8% at baseline. After 2 years, i) robust group showed still robust 61.8%, pre-frail 30.8%, frailty 2.6%. Similarly, ii) pre-frail group showed progressed to frail 13.2%, and becoming robust 31.1%. Among iii) frail group, 6.1% recovered to robust and 42.8% improved to pre-frail. In order to study the prevalence of SF, 6603 elderly adults >65 years were followed up for 6 years [15]. As to SF, 4 factors were investigated including social behavior, social resources, general resources and basic social needs. The results of the prevalence showed social robust 50.0%, social prefrailty 32.1% and social frailty 18.0%, respectively. For significant elevation of risks for incident disability and mortality, hazard ratio was 1.28 and 1.71 for social pre-frailty and frailty group, respectively.

To investigate age-specific prevalence of frailty in Japan for 6 years, meta-analyses data were analyzed for Integrated Longitudinal Studies on Aging in Japan (ILSA-J) [16]. It included 7 studies (n=10312), 8 studies (n=7010), and others. As a result, overall prevalence of PF was decreased from 7.0% (2012) to 5.3% (2017). Especially, frailty ratio aged >70 years was decreased. As to frailty subitems, slight decreased were observed including slowness, low activity, exhaustion and weight loss. From mentioned above, there is a recommended index. It is Social Frailty Index (SFI) based on the scoping reviews from the reports of Bunt,

Teo, Yamada and others [10-15]. Tilburg Frailty Indicator (TFI) [17,18] and Makizato index [19] would be also useful for clinical practice. Furthermore, adequate 11 subdomains of SF would be effective for future management [20]. They include financial difficulties, living alone, absence of life supporters, giving and receiving social support, opportunities to talk with someone, meeting friends, contact with family and neighbours, frequency of going out, social interaction, social activities, and contact with society. Finally, this article will be hopefully useful for actual management in the future.

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