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| Supplementary Table A. Variables included for computing the Frailty Index. | | | | |
|  | Variable | Label | Scale | FI scoring |
| 1 | SRH | How would you describe your health? | Very healthy  Healthier than average  Of average health  Somewhat unhealthy  Very unhealthy | 0.0  0.25  0.5  0.75  1.0 |
| 2 | Vision | Complete loss of vision | No  In one eye  In both eyes | 0.0  0.5  1.0 |
| 3 | Hearing | Complete loss of hearing | No  In one ear  In both ears | 0.0  0.5  1.0 |
| 4 | Heart attack | Have you ever experienced a heart attack? | Yes  No | 1.0  0.0 |
| 5 | Heart disease | Have you experienced other heart disease? | Yes  No | 1.0  0.0 |
| 6 | Cancer | Have you experienced cancer? | Yes  No | 1.0  0.0 |
| 7 | CVD | Have you experienced cerebrovascular disease? | Yes  No | 1.0  0.0 |
| 8 | Ha | Have you experienced hypertension? | Yes  No | 1.0  0.0 |
| 9 | DM | Have you experienced diabetes mellitus? | Yes  No | 1.0  0.0 |
| 10 | Resp | Have you experienced respiratory disease? | Yes  No | 1.0  0.0 |
| 11 | Renal | Have you experienced renal or urinary tract ailments? | Yes  No | 1.0  0.0 |
| 12 | arthritis | Have you experienced arthritis, neuralgia or rheumatism? | Yes  No | 1.0  0.0 |
| 13 | Osteoporosis | Have you experienced osteoporosis? | Yes  No | 1.0  0.0 |
| 14 | Fractures | Have you experienced fractures? | Yes  No | 1.0  0.0 |
| 15 | Bedridden | Have you been bedridden during past two weeks? | Yes  No | 1.0  0.0 |
| 166 | Energy | Have you felt that you have no energy during the past two weeks? | Yes  Somewhat  No | 1.0  0.5  0.0 |
| 17 | Listless | Have you felt listless? | Yes  Somewhat  No | 1.0  0.5  0.0 |
| 18 | Sleepy | Have you felt sleepy during the day? | Yes  Somewhat  No | 1.0  0.5  0.0 |
| 19 | Standing | Do you find it difficult to stand for two hours? | Yes  No | 1.0  0.0 |
| 20 | Seated | Do you find difficult to keep seated for two hours? | Yes  No | 1.0  0.0 |
| 21 | Bend knees | Do you find difficult to stoop or bend your knees? | Yes  No | 1.0  0.0 |
| 22 | Raising hands | Do you find difficult to raise your hands above the head? | Yes  No | 1.0  0.0 |
| 23 | Grasp with fingers | Do you find difficult to grasp with your fingers? | Yes  No | 1.0  0.0 |
| 24 | Lifting 5Kg | Do you find difficult to lift a 5Kg object? | Yes  No | 1.0  0.0 |
| 25 | Showering | Do you have difficulties for showering yourself? | Yes  No | 1.0  0.0 |
| 26 | Dressing | Do you have difficulties for dressing yourself? | Yes  No | 1.0  0.0 |
| 27 | Walk around | Do you have difficulties for walking around the house? | Yes  No | 1.0  0.0 |
| 28 | Go outside | Do you have difficulties for going outside? | Yes  No | 1.0  0.0 |
| 29 | Cooking | Do you have difficulties for preparing your own meal? | Yes  No | 1.0  0.0 |
| 30 | Financing | Do you have difficulties for taking care of your own finances? | Yes  No | 1.0  0.0 |
| 31 | Telephone | Do you have difficulties for using the telephone? | Yes  No | 1.0  0.0 |
| 32 | light housework | Do you have difficulties with light housework? | Yes  No | 1.0  0.0 |
| 33 | Smoking | Do you currently or ever smoke? | Yes  No | 1.0  0.0 |
| 34 | Depression | Have you felt depressed? | Rarely  Sometimes  Often | 0  0.5  1.0 |
| 35 | Troublesome | Doing things that normally seem like nothing felt troublesome? | Rarely  Sometimes  Often | 0  0.5  1.0 |
| 36 | Sleeping | Have you had restless sleeping? | Rarely  Sometimes  Often | 0  0.5  1.0 |
| 37 | Lonely | Have you felt lonely? | Rarely  Sometimes  Often | 0  0.5  1.0 |
| 38 | Sadness | Have you felt sad? | Rarely  Sometimes  Often | 0  0.5  1.0 |
| 39 | Motivation | Have you had trouble feeling motivated? | Rarely  Sometimes  Often | 0  0.5  1.0 |
| 40 | Satisfaction | Are you satisfied with present life? | No  Yes | 1.0  0.0 |

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| **Supplementary B. Cross-sectional Univariate and Multivariate generalized linear models between self-reported oral diseases with the Frailty Index among of community-dwelling older Japanese people.** | | | | | | | | | | | | | | | | |
|  |  | **Univariate analyses** | | | **Model 1A** | | | **Model 1B** | | | **Model 1C** | | | **Model 1D** | | |
|  |  | **Coef.** | **95% CI** | | **Coef.** | **95% CI** | | **Coef.** | **95% CI** | | **Coef.** | **95% CI** | | **Coef.** | **95% CI** | |
| Agen (mean; sd) | | 0.003 | 0.003 | 0.004 | 0.002 | 0.002 | 0.003 | 0.002 | 0.001 | 0.003 | 0.002 | 0.002 | 0.003 | 0.002 | 0.001 | 0.002 |
| Gender (Reference: Male) | | | | | | | | | | | | | | | | |
|  | Female | 0.021 | 0.014 | 0.028 | 0.003 | -0.005 | 0.011 | 0.002 | -0.006 | 0.010 | 0.003 | -0.005 | 0.011 | 0.004 | -0.004 | 0.012 |
| Marital status (Reference: Married) | | | | | | | | | | | | | | | | |
|  | Single | 0.025 | 0.002 | 0.047 | 0.017 | -0.003 | 0.038 | 0.018 | -0.003 | 0.039 | 0.015 | -0.005 | 0.035 | 0.018 | -0.003 | 0.038 |
|  | Widowed | 0.030 | 0.022 | 0.038 | 0.009 | 0.001 | 0.017 | 0.010 | 0.002 | 0.017 | 0.008 | 0.000 | 0.016 | 0.008 | 0.000 | 0.015 |
| Type of community of residence (Reference: Urban) | | | | | | | | | | | | | | | | |
|  | Rural | -0.002 | -0.009 | 0.004 |  |  |  |  |  |  |  |  |  |  |  |  |
| Education background (Reference: Through 9th grade) | | | | | | | | | | | | | | | | |
|  | Through 12th grade | -0.015 | -0.023 | -0.008 | -0.001 | -0.008 | 0.005 | -0.001 | -0.007 | 0.005 | -0.001 | -0.007 | 0.005 | -0.002 | -0.008 | 0.005 |
|  | Junior college or higher | -0.018 | -0.030 | -0.007 | 0.003 | -0.007 | 0.013 | 0.005 | -0.005 | 0.016 | 0.001 | -0.009 | 0.011 | 0.005 | -0.005 | 0.015 |
| Working status (Reference: Working) | | | | | | | | | | | | | | | | |
|  | Retired and unemployed | 0.035 | 0.028 | 0.043 | 0.030 | 0.022 | 0.037 | 0.030 | 0.023 | 0.037 | 0.029 | 0.021 | 0.036 | 0.027 | 0.019 | 0.034 |
|  | Engaged with housework | 0.034 | 0.027 | 0.042 | 0.026 | 0.017 | 0.035 | 0.026 | 0.018 | 0.035 | 0.025 | 0.017 | 0.034 | 0.022 | 0.013 | 0.031 |
|  | No longer doing housework | 0.085 | 0.070 | 0.100 | 0.066 | 0.050 | 0.082 | 0.066 | 0.050 | 0.081 | 0.064 | 0.048 | 0.079 | 0.059 | 0.044 | 0.075 |
| Number of teeth | | -0.031 | -0.041 | -0.021 |  |  |  | -0.010 | -0.019 | 0.000 |  |  |  |  |  |  |
| Utilisation and satisfaction with dentures (Reference: Not using dentures) | | | | | | | | | | | | | | | | |
|  | Using and satisfied | 0.000 | -0.007 | 0.008 |  |  |  |  |  |  | -0.005 | -0.012 | 0.001 |  |  |  |
|  | Using and dissatisfied | 0.036 | 0.022 | 0.050 |  |  |  |  |  |  | 0.022 | 0.010 | 0.034 |  |  |  |
| Ability to chew hard food (Reference: Group 1)\* | | | | | | | | | | | | | | | | |
|  | Group 2 | 0.023 | 0.011 | 0.034 |  |  |  |  |  |  |  |  |  | 0.017 | 0.007 | 0.027 |
|  | Group 3 | 0.029 | 0.016 | 0.043 |  |  |  |  |  |  |  |  |  | 0.017 | 0.005 | 0.029 |
|  | Group 4 | 0.057 | 0.035 | 0.078 |  |  |  |  |  |  |  |  |  | 0.033 | 0.014 | 0.052 |
|  | Groups 5 & 6 | 0.083 | 0.035 | 0.131 |  |  |  |  |  |  |  |  |  | 0.063 | 0.019 | 0.108 |
| \* Group 1-Hard dried squid or pickled radish; Group 2-Boiled pork meat, raw carrots, or celery; Group 3-Deep-fried tofu, pickled octopus, tsukemono made from Chinese cabbage, or raisins; Group 4-Rice, apples, fish cake, or boiled asparagus; Group 5-Bananas, boiled beans, canned corned beef, or wafers; Group 6-Unable to chew food listed in 5  FI: Frailty index | | | | | | | | | | | | | | | | |

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| **Supplementary C. Prospective Univariate and Multivariate generalized linear models between self-reported oral diseases and the FI among of community-dwelling older Japanese people.** | | | | | | | | | | | | | | | | |
|  |  | **Univariate analyses** | | | **Model 2A** | | | **Model 2B** | | | **Model 2C** | | | **Model 2D** | | |
|  |  | **Coef.** | **95% CI** | | **Coef.** | **95% CI** | | **Coef.** | **95% CI** | | **Coef.** | **95% CI** | | **Coef.** | **95% CI** | |
| Age | | 0.005 | 0.005 | 0.006 | 0.004 | 0.003 | 0.005 | 0.004 | 0.003 | 0.005 | 0.004 | 0.003 | 0.005 | 0.004 | 0.003 | 0.005 |
| Gender (Reference: Male) | | | | | | | | | | | | | | | | |
|  | Female | 0.022 | 0.012 | 0.031 | -0.001 | -0.012 | 0.009 | -0.003 | -0.013 | 0.008 | 0.000 | -0.011 | 0.011 | 0.000 | -0.010 | 0.010 |
| Marital status (Reference: Married) | | | | | | | | | | | | | | | | |
|  | Single | 0.054 | 0.020 | 0.088 | 0.048 | 0.017 | 0.079 | 0.050 | 0.019 | 0.081 | 0.046 | 0.015 | 0.078 | 0.050 | 0.019 | 0.080 |
|  | Widowed | 0.036 | 0.025 | 0.046 | 0.007 | -0.003 | 0.017 | 0.007 | -0.002 | 0.017 | 0.006 | -0.003 | 0.016 | 0.003 | -0.007 | 0.013 |
| Type of community of residence (Reference: Urban) | | | | | | | | | | | | | | | | |
|  | Rural | -0.001 | -0.010 | 0.008 |  |  |  |  |  |  |  |  |  |  |  |  |
| Education background (Reference: Throught 9th grade) | | | | | | | | | | | | | | | | |
|  | Through 12th grade | -0.026 | -0.036 | -0.017 | -0.005 | -0.013 | 0.003 | -0.003 | -0.012 | 0.005 | -0.004 | -0.012 | 0.005 | -0.005 | -0.014 | 0.003 |
|  | Junior college or higher | -0.027 | -0.042 | -0.011 | -0.007 | -0.020 | 0.006 | -0.004 | -0.017 | 0.009 | -0.007 | -0.020 | 0.005 | -0.005 | -0.018 | 0.007 |
| Working status (Reference: Working) | | | | | | | | | | | | | | | | |
|  | Retired and unemployed | 0.050 | 0.039 | 0.060 | 0.037 | 0.027 | 0.047 | 0.036 | 0.026 | 0.047 | 0.036 | 0.026 | 0.047 | 0.032 | 0.022 | 0.042 |
|  | Engaged with housework | 0.041 | 0.031 | 0.051 | 0.030 | 0.018 | 0.041 | 0.031 | 0.019 | 0.042 | 0.029 | 0.018 | 0.041 | 0.026 | 0.015 | 0.037 |
|  | No longer doing housework | 0.110 | 0.090 | 0.129 | 0.077 | 0.057 | 0.097 | 0.077 | 0.057 | 0.097 | 0.076 | 0.056 | 0.096 | 0.072 | 0.052 | 0.092 |
| Number of teeth | | -0.051 | -0.064 | -0.038 |  |  |  | -0.015 | -0.027 | -0.003 |  |  |  |  |  |  |
| Utilisation and satisfaction with dentures (Reference: Not using dentures) | | | | | | | | | | | | | | | | |
|  | Using and satisfied | 0.011 | 0.001 | 0.021 |  |  |  |  |  |  | 0.000 | -0.008 | 0.009 |  |  |  |
|  | Using and dissatisfied | 0.038 | 0.021 | 0.055 |  |  |  |  |  |  | 0.018 | 0.003 | 0.032 |  |  |  |
| Ability to chew hard food (Reference: Group 1)\* | | | | | | | | | | | | | | | | |
|  | Group 2 | 0.029 | 0.013 | 0.044 |  |  |  |  |  |  |  |  |  | 0.025 | 0.011 | 0.038 |
|  | Group 3 | 0.053 | 0.033 | 0.073 |  |  |  |  |  |  |  |  |  | 0.032 | 0.014 | 0.049 |
|  | Group 4 | 0.064 | 0.037 | 0.092 |  |  |  |  |  |  |  |  |  | 0.039 | 0.015 | 0.063 |
|  | Groups 5 & 6 | 0.072 | 0.018 | 0.126 |  |  |  |  |  |  |  |  |  | 0.051 | 0.002 | 0.100 |
| \* Group 1-Hard dried squid or pickled radish; Group 2-Boiled pork meat, raw carrots, or celery; Group 3-Deep-fried tofu, pickled octopus, tsukemono made from Chinese cabbage, or raisins; Group 4-Rice, apples, fish cake, or boiled asparagus; Group 5-Bananas, boiled beans, canned corned beef, or wafers; Group 6-Unable to chew food listed in 5  FI: Frailty index | | | | | | | | | | | | | | | | |