

平成 28 年度厚生労働科学研究費補助金
(女性の健康の包括的支援政策研究事業)
分担研究報告書

女性の健康における社会学的要因に関するシステマティックレビュー

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研究要旨

本研究は、健康の社会学的要因である社会経済状況（教育歴、職業、雇用形態、所得・収入）や社会的ネットワーク（婚姻状況、同居状況）と女性の健康（全死亡、がん死亡・罹患、循環器死亡・罹患、自覚的健康感、抑うつ・精神的苦痛）や健康行動（喫煙、飲酒）に関する文献を MEDLINE から抽出し、現時点における日本人女性の健康に関するエビデンスを整理しその傾向を概観することを目的にシステマティックレビューを実施した。

本研究において実施したレビューの結果、現時点において社会経済状況による死亡や罹患との関連についてはいくつかの大規模コホートから報告がされており、基本的に社会経済状況が悪いと死亡リスク、疾病罹患リスクが高い傾向がみられた。しかし、日本人女性を対象とした健康の社会決定要因に関する検証はまだ十分とはいえず、特に子育て期（20～30代）の女性を対象としたエビデンス、就労や所得・収入に関連するエビデンスが少ないことが示された。また、社会的健康決定要因と健康指標の関連に顕著な性差が存在し、その性差の傾向は対象とする要因、健康指標によって一貫していないことも示唆された。健康影響にみられる性差を包括的に理解するためには、生物学的性差の影響に加えて、社会状況、社会的規範、社会的価値観などを考慮し男女を取り巻く社会的環境の違い（社会的性差）を踏まえた研究エビデンスを積み重ねていくことが重要だと考えられる。また、女性の健康に関する社会的決定要因の把握には、女性の家庭生活、就労、社会経済状況、役割など人生の様々な局面に影響を与えている日本社会の特徴のひとつ「強い性別役割分業規範（男性稼ぎ手モデル）」の影響を含めた理解が重要であることが示唆された。

A. 研究目的

健康の社会経済的な格差、すなわち所得・学歴・職種などによって表わされる社会経済状況と健康の間に強い関連があることはよく知られている。一般に、世帯所得、財産、教育、職業階級が高い水準にあればあるほど、疾病の罹患率や死亡率が低く、健康であると言える。日本においても、経済的低迷の中で所得格差や貧困問題が注目され、その流れと連動する形で社会格差

への関心が高まった。公衆衛生分野においては健康の地域格差や社会経済状況による格差に関する知見が蓄積され、日本においても欧米と同様に健康の社会格差が存在することが観察された。2009年に発表された Kagaminori らの研究では、日本においても健康の社会的格差は存在するが、その規模、分布やパターンは必ずしも欧米と一致しないと報告されている(1)。残念ながら、この時点において性別に検討が行われた研

究は少なく、女性の健康における社会的決定要因に関するエビデンスについて言及されていない。

その後、様々な社会的要因と健康指標との関連に関する研究が行われ、日本人女性を対象としたエビデンスも徐々に蓄積されてきている。

そこで、本研究では、これまでに日本人を対象に把握されている社会的要因とさまざまな健康指標との関連に関する知見を基に日本における健康の社会格差を把握し、今後の女性の健康支援対策事業における科学的基盤を堅固にすることを目的としたシステマティックレビューを実施した。具体的には、健康の社会学的要因である社会経済状況（教育歴、職業、雇用形態、所得・収入）や社会的ネットワーク（婚姻状況、同居状況）と女性の健康（全死亡、がん死亡・罹患、循環器死亡・罹患、自覚的健康感、抑うつ・精神的苦痛）や健康行動（喫煙、飲酒）について、MEDLINE から文献を抽出し、現時点における日本人女性に関するエビデンスを整理し、その傾向を概観することとした。

B. 研究方法

女性の社会的健康決定要因と考えられる社会経済状況（教育歴、所得・収入、職業、雇用形態）や婚姻形態、同居形態と女性の健康（全死亡、がん死亡・罹患、循環器死亡・罹患、自覚的健康感、抑うつ・精神的苦痛、喫煙、飲酒）の関連に関するシステマティックレビューを実施するため、上記の社会決定健康要因と健康の関連について、統制語（MeSH）を用いて MEDLINE から文献の抽出を行った。（表 1）対象国を日本とし、調査対象（動物実験除く）、言語（英語）、論文形式（総説やレターなど除外）を固定した上で、以下の検索式により文献を抽出した。（のべ 1089 編*）その中から、抄録を確認し、女性を対象にしていないもの、男女別に結果が示されていないもの、症例報告など、適切な検証が行われていないものを除外し、社会的健康決定要因と健康アウトカムごとに分類した。検索式で得られなかった論文も

多数みうけられたため、手作業で論文を検索する作業も追加した。（のべ 123 編*）その後、論文の精読によるエビデンスの把握とエビデンステーブルの作成を実施した。その結果、教育歴（36 編*）、所得・収入（11 編*）、職業（31 編*）、雇用形態（11 編*）、婚姻形態（23 編*）、居住形態（11 編*）の論文を把握し、健康指標ごとに整理しレビューを実施した。（*要因ならびに健康指標ごとに集計し合計したため重複あり）

そのうち、コホート研究は 75 件、横断研究が 48 件。対象年齢が 20-39 歳は 42 件、40-64 歳は 104 件、65 歳以上は 64 件であった。（重複あり）

C. 研究結果ならびに D. 考察

1. 教育歴

教育歴は将来における職業機会や収入を規定する意味において社会階層の最も基本的な指標だと考えられおり、これまでの疫学研究で最も頻繁に用いられている社会階層指標の一つである(2)。教育歴は学歴、公的教育の終了年齢、公的教育の修業年数によって測定され、将来の社会的成功に関する情報を提供すると考えられる。つまり、高い教育歴の人は、よい職につく可能性、高い収入を得る可能性、良い家に住む可能性、良い職場環境を享受できる可能性が高く、逆に、低い教育歴の人はこれらの可能性が低いと予想される。教育によって得た知識やライフスキルは、その人の健康に関する情報や資源へのアクセスを決定すると考えられ、教育による健康情報や資源へのアクセスの違いによって健康格差が生まれる可能性が示唆されている(3)。高い教育をうけること、つまり高学歴であることによる自己肯定感の上昇などの心理的側面への影響や¹³⁾ 学閥などに代表されるような社会的ネットワークや資源を通じた社会心理的な影響から健康格差が生成される機序も考えられる(4)。また、このような情報・資源・社会心理要因における教育歴による差は健康行動にも影響がある(3)。欧米の多くの先行研究は教育歴が短

ければ短いほど死亡率・罹患率が高く、健康状態は悪いことを示している。

1-1 全死亡

教育歴と全死亡の関連は、男女共に教育歴が高いほど死亡リスクが低い傾向が示されている。たとえば、Fujinoらは、全国45地区に居住する40～79歳の地域住民約11万人が参加した大規模コホート研究 Japan Collaborative Cohort Study (JACC Study)のデータを用いて、教育歴と死亡リスクの関連を検証した。(5)その結果、公的教育を18歳以上まで受けた群に対して、公的教育を完了した年齢が15歳以下であった群の調整ハザード比は、男性で1.16(95%信頼区間:1.08-1.25)、女性で1.26(95%信頼区間:1.14-1.39)であった。また、Itoらは4保健所管内の40～59歳の地域住民約5万5千人が参加した大規模コホート研究 Japan Public Health Center-based Prospective Study (JPHC study)コホート1のデータを用い、1990年のベースライン調査時に得られた最終学歴(中学卒業、高校卒業、短大・大学・専門学校卒業)とその後2002年末までの総死亡リスクとの関連を分析した。(6)その結果、最終学歴が短大・大学・専門学校卒業の男性と比較して、中学卒業群の死亡ハザード比は男性で1.30(95%信頼区間:1.09-1.54)女性で1.34(95%信頼区間:1.02-1.78)と報告している。

1-2 がん(死亡・罹患)

がん死亡との関連に関しては一貫した結果は得られていない。前述のJACC Studyにおいては、男性においては教育歴が高いほど全がん死亡リスクが低い、女性では関連がみられていない(5,7)。また、JPHC studyにおいては女性においてのみ教育歴と全がん死亡リスクの関連が見られた(6)。広島・長崎原爆被ばく者コホート(寿命調査LSS: life Span Study)においては、1978年に74歳以下の男性約1万3千人と女性約2万

人を対象に約23年間追跡した結果、教育歴と全がん死亡リスクとの関連は男女とも把握されていなかった。また、部位別の検討においても顕著な関連は把握されていない(8)。

罹患リスクに関する検討では、LSS Studyにおいて、教育歴が低いほど全がん罹患リスクが高い傾向を示したが、女性では統計的に有意な関連はみられなかった(8)。乳がん罹患リスクに関しては、JACC Studyでは高学歴の女性の乳がん罹患リスクが高いことが示されたが(9)、他の研究では関連はみられず(8)、一貫した結論は得られていない。

1-3 循環器疾患(死亡・罹患)

循環器疾患死亡においては、教育歴が高いほど循環器疾患で死亡するリスクが低い傾向が把握された。前述のJACC Studyでは40～65歳の男女約5万6千人を平均14.7年追跡した結果、男女ともに教育歴が高いほど循環器疾患で死亡するリスクが低かった(7)。他のコホート研究においても統計的に有意ではなかったが、同様の傾向がみられた(6,10)。

循環器疾患罹患に関する検討は、主に脳卒中罹患リスクと教育歴の関連が検討されている。JPHC studyにおいて、女性を対象に教育歴と脳卒中罹患との関連を検討した結果、欧米と異なり、低学歴群とともに高学歴群においてもリスクが上昇するというU型の関連を把握した(11-13)。この関連は特に出血性の脳卒中で強くみられた。しかし、教育歴と虚血性心疾患死亡・罹患との関連はみられていない(5,11)。

1-4 自覚的健康感

日本における自覚的健康感と教育歴の関連に関する検証の多くは横断研究の結果である。地方自治体職員を約1300人対象とした研究では男女とも関連はみられなかったが(14)、20歳以上の地域住民から無作為抽出された男女あわせて約3千人を対象にした World Mental Health Japan (WMHJ) 研究で

は、女性において教育年数が低いほど自覚的健康感が悪い人の割合が高かった(15)。自覚的健康感に関する検証のほとんどは横断研究であるが、Wangらは1993年に2地区に居住する47～77歳の地域住民約1万人に対し、7年後の2000年に追跡調査を実施したKomo-Ise Studyのデータを用いて、教育歴と自覚的健康感の関連を縦断的に検証した。その結果、高校卒業を基準とした教育歴と自覚的健康感においては縦断的な関連を把握することはなかった(16)。

1-5 精神健康

教育歴と精神的苦痛との関連に関する縦断研究は実施されていない。前述のWMHJ研究では、女性では教育歴が高いほど自覚的な精神不健康を訴える人の割合が低いことが示されたが(15)、無作為に抽出された20～74歳の地域住民を対象とした検証(17)では同様の傾向はみられるものの、統計的に有意な結果ではなかった。

抑うつとの関連に関しては、WMHJ研究における5年間の追跡の結果、男女ともに教育年数が高いほど抑うつ罹患リスクが高い傾向が示されている(19)。

1-6 健康行動(喫煙・飲酒)

35～64歳の地方自治体職員約1300人対象とした研究では、男女とも教育歴が高いほど喫煙者の割合が高い傾向がみられた。また、女性では高校卒業群は大学卒業群と比較して、毎日飲酒する習慣のある人の割合が高い傾向がみられたが、男性では同様の傾向はみられなかった(14)。しかし教育歴と健康行動の関連に関する検証は量・質ともに限られており、結論には至らない。

1-7 まとめ

教育歴は、他の指標と比較して、疫学調査において最も頻繁に情報が収集され、情報の欠損も少ない有用な社会階層指標のひとつである。教育歴と全死亡、疾患別死亡、がん罹患、循環器疾患罹患、精神健康の関連について、日本の代表的

なコホート研究による縦断的検証が実施されエビデンスも蓄積されてきている。教育歴が低いほど死亡リスクが高いという関連は、欧米と同様に日本においても顕著であるといえる。しかし、疾患別死亡リスクとの関連においては、必ずしも一致した結論に至っていない。また、がん・循環器疾患罹患リスクに関しても、十分なエビデンスがあるとはいえず、女性の結果は男性あるいは欧米の結果と異なる傾向もみられる。精神健康との関連に関しては、欧米と異なり、高学歴群で抑うつ罹患リスクが高いという傾向が示されている。しかし、教育歴と精神健康ならびに健康行動の関連に関する検証は限定的であり、結論には至らないと考える。

2. 所得・収入

所得・収入は個人の生活水準を示唆する重要な指標の一つである。疫学研究では、世帯人数を調整した等価所得を用いることが多い。収入は、健康に影響を与える物質的環境と直接的に関連するという意味において重要な指標である。収入が多い人は、健康に益する物やサービスへのアクセスが、収入が少ない人と比較して良いと考えられる。少なくとも現在では、貧困により健康を維持するのに困難なレベルの物質的困窮は解消されているが、健康に関する上級財(階層の高い人から普及していく財)、例えば、禁煙クリニックに通う、添加物の少ない食品を購入する、スポーツクラブに入会する等といった行動は、依然収入によって差があると考えられる。欧米の多くの先行研究において収入が少ないほど死亡率・罹患率が高く、健康状態は悪いことが示されている。

2-1 全死亡

該当するエビデンスはなかった。

2-2 がん(死亡・罹患)

該当するエビデンスはなかった。

2-3 循環器疾患（死亡・罹患）

該当するエビデンスはなかった。

2-4 自覚的健康感

1993年から2000年にかけて2地区に居住する47～77歳の地域住民約1万人に追跡調査を実施したKomo-Ise Studyでは、世帯収入が低いほど自覚的健康感が悪いと答える傾向が把握された(16)。また、WMHJ研究においても同様の結果が把握された(15)。

2-5 精神健康

2001年の国民生活基礎調査データを用い、25～59歳を対象に世帯収入と精神的ストレスの有無の関連を検証した研究では、男女共に世帯収入が低いほど精神的ストレスを感じている人の割合が高い傾向が示されている(20)。また、地域住民から無作為抽出した20歳以上の人を対象にした研究では、同様の傾向ではあったが統計的に有意な結果ではなかった(15, 17)。

抑うつにおいては、横断研究で女性では世帯収入が高いほど抑うつの有病リスクが低い傾向が報告されているが(21)、WMHJ研究データを用い無作為抽出された地域住民約1600人のベースライン時の世帯収入と5年後の抑うつ発症の関連を検討した縦断研究では、男女ともに関連は把握されていない(19)。

2-6 健康行動（喫煙・飲酒）

前述の2001年の国民生活基礎調査データを用い、25～59歳の約4万1千人を対象に世帯収入と喫煙ならびに過剰飲酒の有無との関連について検討した結果、男女とも収入が低いほど喫煙している傾向がみられた。女性においては、最も世帯収入の低い群で最も高い群と比較して過剰飲酒をしている人の割合が高い傾向がみられたが、男性では世帯収入と危険飲酒の関連はみられなかった(20)。

2-7 まとめ

収入は、個人の経済力を反映する重要な指標のひとつである。しかし、これまでの大規模コホート研究の多くは、個人の所得・収入に関する情報を収集しておらず、残念ながら収入・所得と全死亡、疾患別死亡・罹患の関連に関するエビデンスはなかった。その他の健康指標との関連に関しても、所得・収入が高いほど、健康状態が良く、良い健康行動をとっている傾向がみられるが、そのエビデンスは質・量ともに不足している。

3. 職業

受けた教育によって選択可能な職業が決定され、就いた職業によって経済的報酬額が決定する。従って、職業は教育歴と収入をつなぐ中間的指標といえる。また、職業は社会的地位や権力を推定し把握できる可能性があり、社会経済的状況の複合的特徴を捉えることが可能な総合的な指標であるといえる。しかし、日本では職業の有無や日本標準職業分類大分類(22)から、職業をブルーカラー労働者（肉体労働者）、ホワイトカラー労働者（頭脳労働者）に分類するなど比較的単純で古典的な手法を用いることが多く、職業を階層化した指標を用いた研究は少ない。

職業指標の最大の短所は職に就いていない集団、たとえば、失業者、主婦などを対象にできないことである。また、性によって職業に偏りがあり、女性が主についている職業、たとえばサービス業、販売業、介護・保健医療職等をどのように扱うかについて問題が残る。日本ではホワイトカラー職に就く女性の多くが補助的な役割であることが多く、女性においてホワイトカラー職の多くを占めるサービス業、販売業などは収入も低く、不安定で、職業性ストレスが高い傾向にある(20, 23)。したがって、男性とはその健康影響も異なることが考えられる。

3-1 全死亡

職業の有無と全死亡の関連については、男女共に無職者の死亡リスクが有職者と比較して高いことが示された(7, 24)。たとえば、JACC

Study のデータを用いて職業の有無と死亡リスクの関連を検証した結果、無職者は有職者あるいは事務職と比較して死亡リスクが高く、(7, 24) 肉体労働者は事務職と比較して男性で高い死亡リスクを示すが、女性では関連がみられなかった(7)。(また、40-69歳の地域住民約1万1千人を対象に平均約9.2年間追跡した Jichi Medical School (JMS) コホート研究では、事務職と比較した農林業のハザード比は男性で1.05 (95%信頼区間: 0.71-1.56) であるのに対し、女性は0.55 (95%信頼区間: 0.33-0.93) と女性においてのみ肉体労働(農林漁業)は事務職と比較して死亡リスクが低いと報告している(10)。また、高齢者を対象としたコホート研究では、男女とも75歳以上の後期高齢者において有職者は無職者と比較して4年の追跡期間における死亡リスクが低い傾向がみられた(25)。また、68歳から82歳の高齢者を12年間追跡した研究では、特に女性において有職者は無職者と比較して死亡リスクが低いことが示されている(26)。

3-2 がん (死亡・罹患)

全がん死亡リスクと職業との関連は前述2つの大規模コホートにおける検証では把握されなかった(10, 13, 27)。部位別の検討では、JACC 研究において、肉体労働は事務職と比較して、男性では胃がん、大腸がん、女性では肺がん、乳がんにおいて、死亡リスクが高いと報告されている(27)。

がん罹患リスクに関して該当するエビデンスはなかった。

3-3 循環器疾患 (死亡・罹患)

循環器疾患死亡においては、前述の JACC 研究では40-65歳の男女約5万6千人を平均14.7年追跡した結果、男性の無職者は事務職者と比較して循環器疾患で死亡するリスクが高く、女性の肉体労働者は事務職者と比較してそのリスクは低かった(7)。同じ JACC 研究で、40-79歳

を対象に平均12.5年追跡し疾患別の検討を実施した結果、虚血性心疾患においては男女とも職業との関連はみられなかったが、脳卒中死亡では、男性において肉体労働者は事務職者と比較してリスクが高いことが報告されている(27)。また、JMS コホート研究では、男性の農林業者は事務職者と比較して循環器疾患死亡リスクが低いが、女性では関連がみられなかった(10)。

循環器疾患罹患に関する検討は、JPHC 研究において実施された1件のみである。40-59歳の女性約1万5千人を約20年間追跡した結果、サービス販売職、肉体労働者は専門・管理職と比較して、脳卒中罹患リスクが高かった。事務職者も同様の傾向はみられたが、統計的に有意ではなかった(13)。

3-4 自覚的健康感

2地区に居住する47-77歳の地域住民約1万人を対象に、1993年から2000年にかけて追跡調査を実施した Komo-Ise Study では、男女共に雇用者と比較して無職者の自覚的健康感が悪いリスクが高いことが把握された(16)。地方自治体職員約1300人を対象とした横断研究では、男女共に肉体労働者は高階層非肉体労働者と比較して自覚的健康感が悪かった(14)。別の地方自治体公務員約2500人を対象とした横断研究では、男性においては管理職と比較して、専門職、事務職、肉体労働者の自覚的健康感が悪い人の割合が高い傾向がみられたが、女性では関連が把握されなかった(28)。

3-5 精神健康

2001年の国民生活基礎調査データを用い25-59歳の女性約2000人を対象に、職業と精神的ストレスや心配の有無の関連を検証した研究では、男性において肉体労働や農業は専門職より精神的ストレスを感じている人の割合が低い傾向が示された。また女性では主婦と比較して、農業従事者は精神的ストレスを感じている人の割合が低く、販売業、サービス業従事者では高いこ

とが報告されている(20)。また、29-50歳の就労者約2300人を対象とした研究では、男性では職業分類と抑うつ症状の有無との関連がみられなかったが、女性では事務・管理職と比較して専門職者の抑うつ症状の有病リスクが高かった。同じ研究において、管理職かどうかと抑うつ症状の有無との関連は男女ともみられなかった(29)。

3-6 健康行動（喫煙・飲酒）

2001年の国民生活基礎調査データを用い25-59歳を対象に職業と喫煙行動との関連を分析した結果、女性では販売職、サービス職は主婦より喫煙する傾向がみられた。男性では、管理職、販売、サービス、輸送・通信、労務は専門職と比較して喫煙する傾向がみられた。地方公務員を対象とした調査においては男女ともに職位と喫煙との統計的に有意な関連はみられていない(14)。前述の国民生活基礎調査データを用いた研究において、危険飲酒との関連を分析した結果、女性では専門職、事務職、販売職、サービス職は主婦より危険飲酒している傾向が把握された。男性では専門職と比較して販売、輸送・通信、労務において危険飲酒している傾向がみられた(20)。

3-7 まとめ

職業は多くの研究で職業カテゴリーとして扱われており、階層を示す職業的地位を示す指標との関連を検討した研究は限られている。また、基準となる職業カテゴリーも一致しておらず、職業と健康の関連に関して、現時点で一貫した結論を得ることは難しいと考える。これまでの研究結果を性別で比較すると、男女で結果が異なる傾向がみられ、職業と健康の関連を捉えるには女性の就労環境に特化した検討が重要であることが示唆される。就労の健康影響に関しては、これまで主に産業保健分野において、職場の環境や雇用状況に関する要因と健康との関連を中心に検証されてきた。そして、その対象は主に正規雇用者であることが多く、そのため非正規

雇用者の多い女性就労者は研究の対象から外れていることが多かったため、職業と女性の健康に関するエビデンスは特に十分とはいえない。

4. 雇用形態

女性就労者は、家庭との両立のためパート・アルバイトなどの非正規雇用での就労が多い傾向にあり、その割合は1990年ごろから年々増加し続けている。その背景の一つに、一旦正規職から離れると正規職に戻ることが難しいという日本社会特有の雇用体制がある。パート・アルバイトなどの働く時間の自由度が比較的高い勤務体系は家庭と仕事の両立を目指す必要のある女性にとって都合が良いという側面がある。一方で、家事・育児のため離職し、その後復職した女性の多くは、本人の希望とは関係なく非正規雇用での就労をせざるを得ない状況が存在する。女性の高い非正規雇用割合は、日本の雇用体制と性別役割分業規範が女性の雇用形態に大きく影響した結果でもあると言える。また、日本における正規雇用とパートタイム雇用の違いは、勤務時間の長さという意味のほか、雇用に関する条件や状況、福利厚生面における違いを含めたものであり、いわゆる雇用における「身分」の意味合いが強い定義といえる。先に述べた様に非正規雇用から正規雇用への移動は極めて困難であるという状況を考えると、パート・アルバイト就労者の経済的不安、雇用不安、将来に対する危機感といったものが長期的な健康への影響を与えるのではないかと推察される。

4-1 全死亡

JACC研究データを用いた2つの研究から、男性において自営はフルタイム雇用と比較して全死亡リスクが高く（パートタイム雇用者はほとんどおらず分析不可）(30)、女性において自営ならびにパートタイム雇用はフルタイム雇用と比較して全死亡リスクが高かった(31)。

4-2 がん（死亡・罹患）

全がん死亡リスクに関する分析では、男女共に自営は雇用者と比較して死亡リスクが高く、部位別にみると男性では、食道がん、胃がん、大腸がん、肝がんでその傾向がみられ、女性ではすい臓がん、肺がんでみられた(27)。

がん罹患に関するエビデンスはなかった。

4-3 循環器疾患 (死亡・罹患)

前述の JACC 研究データを用いた研究より、男性では雇用形態と循環器疾患死亡リスクの関連は見られなかったが、女性では、雇用者は自営と比較して循環器疾患死亡リスクが高いことが示された。しかし、疾患別死亡における分析では、男性でのみ、雇用者が自営と比較して脳卒中死亡リスクが高いことがみとめられた(30)。虚血性心疾患死亡においては男女とも関連がみられなかった(27, 30)。

4-4 自覚的健康感

該当するエビデンスはなかった。

4-5 精神健康

中高年縦断調査データを用い、50-59歳の男女あわせて約1万5千人を対象に、2005年から2009年まで追跡した縦断研究の結果、男性において重篤な心理的苦痛を発症するリスクが、フルタイム雇用者と比較して非正規雇用者で高かったが、女性では関連がなかった(32)。また、2007年の国民生活基礎調査データを用い、15-83歳を対象に雇用形態と精神的苦痛の有無の関連を分析した研究では、男性のパートタイム就労者はフルタイム正規雇用者と比較して精神的苦痛の有病者割合が高いが、女性では関連がみられなかった。逆に女性のフルタイム非正規雇用者は、フルタイム正規雇用者と比較して精神的苦痛の有病者割合が高いが、男性では関連がみられないという男女で異なる結果であった(33)。また、29-50歳の就労者約2300人を対象とした研究では、フルタイム雇用かどうかは精神的ストレスの有無と関連がみられていない

(29)。

4-6 健康行動 (喫煙・飲酒)

浜松市の15-79歳地域住民で無作為に抽出された約500人を対象に実施した調査の結果、男女とも雇用形態と危険飲酒の有無に統計的に有意な関連はみられなかった(34)。

4-7 まとめ

近年、非正規雇用者の割合増加に伴い、雇用形態の違いが健康に与える影響について関心が高まり、その検証も進められてきたが、雇用形態と健康に関するエビデンスは十分とはいえない。これまでのエビデンスを概観すると雇用形態と健康の関連には顕著な性差がみられる。

5. 婚姻形態

婚姻が健康に大きな影響を与えている事はこれまでの多くの先行研究により明らかにされている(35)。男女とも未婚者や死別・離別者に比べ、既婚者は、身体的に健康で、心理的にも幸福であり、死亡リスクも低いことが知られている。婚姻が健康に影響を与える機序のひとつは婚姻関係を通じた社会的サポートの授受による影響が挙げられる。婚姻による社会的サポート、特に情緒的サポートの授受は、うつ症状や不安、疾病への罹患や死亡リスクを減少させる効果がよく知られている(35)。また、婚姻により得られる経済的安定が健康に大きな影響を与えることも考えられる(36)。一般的に社会経済的基盤が脆弱な女性にとって、婚姻により得られる経済的安定は大きな恩恵の一つである事は想像に難くない。これに対し、婚姻による経済的影響がそれほど大きなものでないと考えられる男性にとっては、結婚によってもたらされるパートナーや家族の協力や支えといった、情緒的・社会的サポートの供給が健康に大きく影響することが伺える。

5-1 全死亡

婚姻と全死亡の関連は、既婚者は未婚者と

比較して死亡リスクが低い傾向が示された(31, 37-39)。たとえば、JACC 研究では40-59歳の地域住民を1990年のベースライン時の婚姻形態をもとに、その後20年間追跡した結果、既婚者と比較した未婚者の全死亡ハザード比は、2.04(95%信頼区間:1.18-3.53)であった。Komo-Ise Studyにおいても同様に、47-77歳の地域住民約1万人を対象に、1999年のベースライン時の婚姻形態をもとにその後7年間追跡した結果、既婚者と比較した未婚者の全死亡のハザード比は、1.91(95%信頼区間:1.05-3.49)であった(37)。男性においては、離別・死別も同様に死亡リスクが高い傾向が示されているが(38, 39)、女性においては離別・死別が既婚者より高い死亡リスクであるという結果は得られていない。特に高齢者を対象にしたコホート研究においては、男性では死別者の死亡リスクは婚姻継続者と比較して高いが、死別した女性は婚姻を継続している女性と比較して死亡リスクがない、あるいは低いという、欧米とは異なる結果を示している(26, 40)。

5-2 がん (死亡・罹患)

JACC 研究において、男性では死別者は既婚者と比較してがん死亡リスクが高い傾向がみられるが、女性では関連はみられない。Komo-Ise Studyでは男女ともに関連がみられていない(37)。

がん罹患に関する該当するエビデンスはなかった。

5-3 循環器疾患 (死亡・罹患)

JACC 研究において、男性では死別者・未婚者は既婚者と比較して循環器疾患死亡リスク、虚血性心疾患死亡リスク、脳卒中死亡リスクが高い傾向がみられたが、女性では関連がみられていない(38)。しかし、Komo-Ise Studyでは男女ともに関連がみられておらず、一貫した結果とはなっていない(37)。

循環器疾患罹患に関する検討は、JPHC 研究において実施された1件のみである。45-64歳の女性約5万人の脳卒中発症を、ベースライン時における過去5年間の婚姻形態変化をもとに約15年間追跡した結果、男女ともに離婚・死別者は結婚継続者と比較して脳卒中罹患リスクが高い傾向を示した(41)。

5-4 自覚的健康感

1993年から2000年にかけて2地区に居住する47-77歳の地域住民約1万人を対象に追跡調査を実施したKomo-Ise Studyでは、男性の離婚者・非婚者は既婚者と比較して自覚的健康感が悪化するリスクが高いが、女性では関連がみられていない(16)。

5-5 精神健康

2001年の国民生活基礎調査データを用い、25-59歳を対象に職業と精神的ストレスや心配の有無の関連を検証した研究で、男性では婚姻形態との関連はみられなかったが、女性の離婚者は既婚者と比較して精神的ストレスを感じている人の割合が高いことが報告されている(20)。

抑うつに関するエビデンスはなかった。

5-6 健康行動

2001年の国民生活基礎調査データを用い25-59歳を対象に婚姻形態と喫煙行動との関連を分析した結果、男性の非婚者は既婚者と比較して喫煙しない傾向がみられた。女性での非婚者は、男性とは対称的に既婚者と比較して喫煙する傾向がみられた(20, 42)。同じ研究において、危険飲酒との関連を分析した結果、男女とも離婚者は既婚者と比較して危険飲酒している傾向がみられた。

5-7 まとめ

これまでのエビデンスを概観すると、日本における婚姻形態の健康影響は必ずしも欧米の結果と一致しているとは言えない。日本における

婚姻の健康影響は、健康アウトカム、対象者の年齢や性別によって異なることが示唆された。

6. 居住形態

居住形態と健康の関連に関する研究は、欧米では主にパートナーとの同居の有無、独居の有無を中心に検討されてきた。しかし、わが国における居住に関する状況は欧米とは異なり、居住形態は子供・親との同居の有無を含めた居住形態と健康との関連についての研究が進められている。

6-1 全死亡

居住形態と全死亡の関連は、いくつかのホート研究により検討されているが、一貫した傾向は把握されていない(25, 26, 37, 43)。

(たとえば、JPHC 研究では 40-59 歳の地域住民約 9 万人を対象に、1990 年のベースライン時の居住形態をもとにその後 11 年間追跡した結果、男性では独居、親と同居、子供と同居、その他と同居は配偶者と同居と比較して死亡リスクが高く、配偶者と親と同居、配偶者と子供と同居は配偶者とのみ同居と比較して死亡リスクが低かった。一方、女性では親との同居は配偶者とのみ同居と比較して死亡リスクが高いという結果であり、居住形態と死亡リスクの関連は複雑で性差が顕著である(43)。Komo-Ise Study においては 47-77 歳の地域住民約 1 万人を対象に、1999 年のベースライン時の居住形態をもとにその後 7 年間追跡した結果、男女ともに同居者が増えるほど死亡リスクが低下している傾向がみられた(37)。高齢者を対象にしたコホート研究の結果は、高齢者では中高年者とは異なる健康影響がある可能性を示唆するものであった(25, 26)。

6-2 がん (死亡・罹患)

がん死亡に関する検討は 1 件のみであった。Komo-Ise Study においてがん死亡との関連を検討した結果、男性では同居者数が一人増えるご

とにがん死亡リスクは低下するが、女性では関連がみられていない(37)。がん罹患との関連に関する先行研究はなかった。

6-3 循環器疾患 (死亡・罹患)

循環器疾患死亡・罹患リスクに関する分析は、前述の JACC 研究において実施されており、男女で異なる結果が示されている。虚血性心疾患死亡においては、男性では親と同居、その他と同居は配偶者とのみ同居と比較して死亡リスクが高いが、女性では独居あるいは親と同居は配偶者とのみ同居と比較して死亡リスクが高い。虚血性心疾患罹患に関しては、男性では関連が見られなかったが、女性では親と配偶者と同居、子供と配偶者と同居、配偶者と親と子供と同居、子供と同居は配偶者とのみ同居と比較して死亡リスクが高いという結果であった(43)。

Komo-Ise Study においては、循環器疾患死亡、脳卒中死亡、虚血性心疾患死亡のいずれにおいても男女とも関連がみられていない(37)。

6-4 自覚的健康感

1993 年から 2000 年にかけて 2 地区に居住する 47-77 歳の地域住民約 5 千人を追跡調査した Komo-Ise Study では、男女ともに同居者数が一人増えるごとに自覚的健康感が悪くなるリスクが低下する傾向であった。(16)。

6-5 精神健康

該当する研究は、高齢者を対象にした横断研究 1 件のみだった。65-74 歳の地域住民約 2 千人を調査した結果、独居者の抑うつ傾向リスクは誰かと同居している人と比較して高かった(18)。(女性では統計的に有意な関連ではなかった)また、同じ研究で、男性では配偶者とだけ同居と比較して、配偶者以外の家族と同居、独居は抑うつ傾向リスク高く、女性では配偶者と配偶者以外の家族と同居、独居は抑うつ傾向リスク高い傾向がみられた(44)。

6-6 健康行動

該当するエビデンスはなかった。

6-7 まとめ

居住形態の健康影響に関するエビデンスは十分ではなく、結論には至らない。しかし、居住形態が健康になんらかの影響を及ぼしている傾向がうかがえる。また、居住形態の健康影響も男女で異なる可能性も示唆される。

E. 結論

本研究において実施したレビューの結果、日本人女性を対象とした健康の社会決定要因に関する検証はまだ十分とはいえないと考えられる。しかし、現時点において社会経済状況による死亡や罹患との関連についてはいくつかの大規模コホートから報告がされており、基本的に社会経済状況が悪いと死亡リスク、疾病罹患リスクが高い傾向がみられる。健康行動や精神健康に関する分析は限られており、健康格差発症メカニズムに関する検証には至っていない。

また、多くの社会的健康決定要因の健康影響において、顕著な性差がみられることには注意が必要である。健康あるいは健康影響にみられる性差を包括的に理解するためには、生物学的性の影響に加えて、社会状況、社会的規範、社会的価値観などを考慮し、男女を取り巻く社会的環境の違いを踏まえた研究エビデンスを積み重ねていくことが重要であると考えられる。欧米と異なり、日本では「男性は外で働いて家計を維持し、女性は家庭を守るべきである」という性別役割分業規範(男性稼ぎ手モデル)が依然として根強く、女性の家庭生活、就労、社会経済状況、役割など人生の様々な局面に影響を与えている。このような社会的特徴は、女性の健康に直接的にも間接的にも大きく影響している。したがって、女性の健康に関する社会的決定要因の把握には、その背景にある性別役割分業規範の影響を含めた理解が重要である。

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F. 健康危険情報

特記すべきことなし

G. 研究発表

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H. 知的財産権の出願・登録状況
特記すべきことなし

Table1. Studies of Education and health outcome

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|---|---|------------------------------|------------------------|--------------------|--|---|---|--|---|
| All cause mortality | | | | | | | | | |
| Fujino Y et al. (2005) Prev Med. 40:444-451. | JACC study | 16715 (men) 23284 (women) | 40-79 | Prospective cohort | 153,184 person years 223,955 person years | Educational background (age: ≤ 15 years, 16-17 years, ≥ 18 years) | All cause mortality | Age | RR=1.16 (95%CI: 1.08-1.25) for ≤ 15 years vs ≥ 18 years. RR=1.06 (95%CI: 0.97-1.16) for 16-17 years vs ≥ 18 years. RR=1.26 (95%CI: 1.14-1.38) for ≤ 15 years vs ≥ 18 years. RR=1.04 (95%CI: 0.92-1.15) for 16-17 years vs ≥ 18 years. |
| Honjo K et al. (2014) Int J. Behav Med. 21(5):737-49 | JACC study | 24460 (men) 32649 (women) | 40-65 | Prospective cohort | 16 years (mean follow up period: 14.7 years) | Age at education completed (15 years and younger, 16-18 years old, 19 years and older, Missing) | All cause mortality | Age, marital status, occupation | Logistic estimate -0.135 for 16-18 years old vs 15 years and younger (p<0.05). Logistic estimate -0.283 for 19 years and older vs 15 years and younger (p<0.05). Logistic estimate -0.106 for 16-18 years old vs 15 years and younger (p<0.05). Logistic estimate -0.18 for 19 years and older vs 15 years and younger (p<0.05). |
| Honjo K et al. (2015) J Epidemiol Community Health; 69:1012-1017. | JACC study | 16692 (women) | 40-59 | Prospective cohort | 20 years (mean follow up period: 17.7 years) | Education level (age of completed formal education) (15 years or younger, 16-18 years, 19 years or older) | All cause mortality (two period:1973-77, 1993-98) | Age, area | HR=0.86 (95%CI: 0.75 to 0.98) for 16-18 years vs 15 years or younger. HR=0.80 (95%CI: 0.64 to 0.99) for 19 years or older vs 15 years or younger. |
| Ito S et al. (2008) Eur J of Public Health. 5:466-472. | JPHC Cohort study | 18940 (men) 20288 (women) | 40-59 | Prospective cohort | 13 years | Educational level (primary [junior high school], secondary [high school], tertiary [jr. college, vocational school, university or higher]) | All cause mortality | Sex, age, Public Health Center area | HR=1.30 (95% CI, 0.109-1.54) for men with primary education vs tertiary. HR=1.05 (95% CI, 0.88-1.26) for men with secondary education vs tertiary. (p for trend <0.0001) HR=1.34 (95% CI: 1.02-1.78) for women with primary education vs tertiary. HR=1.04 (95% CI, 0.78-1.40) for women with secondary education vs tertiary. (p for trend 0.002) |
| Hirokawa K et al. (2006) European J Epidemiol. 21:641-651 | Jichi Medical School (JMS) cohort study | 4301 (men) | 35 years old and older | Prospective cohort | Mean follow-up period:9.17 years | Educational level (<15 years, 15 ≤ ; <18 years , ≥ 18 years) | All cause mortality | Age, educational level, employment status. | All ages HR=1.21 (95%CI: 0.90-1.64) for 15-17 years vs ≥ 18 years. HR=1.22 (95%CI: 0.85-1.76) for <15 years vs ≥ 18 years. (p for trend 0.28) 59 and younger HR=1.42 (95%CI: 0.82-2.46) for 15-17 years vs ≥ 18 years. HR=1.83 (95%CI: 0.69-4.86) for <15 years vs ≥ 18 years. (p for trend 0.15) |
| | | | 35-59 | | | | | | 60 and elder HR=1.11 (95%CI: 0.78-1.59) for 15-17 years vs ≥ 18 years. HR=1.14 (95%CI: 0.77-1.70) for <15 years vs ≥ 18 years. (p for trend 0.54) |
| | | | 60- | | | | | | All ages HR=1.49 (95%CI: 0.92-2.39) for 15-17 years vs ≥ 18 years. HR=1.65 (95%CI: 0.99-2.74) for <15 years vs ≥ 18 years. (p for trend 0.08) 59 and younger HR=1.42 (95%CI: 0.68-3.00) for 15-17 years vs ≥ 18 years. HR=3.82 (95%CI: 1.18-12.34) for <15 years vs ≥ 18 years. (p for trend 0.06) 60 and elder HR=1.58 (95%CI: 0.84-2.99) for 15-17 years vs ≥ 18 years. HR=1.62 (95%CI: 0.86-3.05) for <15 years vs ≥ 18 years. (p for trend 0.23) |
| | | | 35 years old and older | | | | | | HR=1.23 (95%CI: 1.13-1.35) for ≤ 9 years men vs ≥ 13 years men. HR=1.13 (95%CI: 1.04-1.24) for 10-12 years men vs ≥ 13 years men. (p for trend <0.001) HR=1.31 (95%CI: 1.12-1.53) for ≤ 9 years men vs ≥ 13 years men. HR=1.15 (95%CI: 0.99-1.34) for 10-12 years men vs ≥ 13 years men. (p for trend <0.001) |
| Cancer mortality | | | | | | | | | |
| Fujino Y et al. (2005) Prev Med. 40:444-451. | JACC study | 16715 (men) 23284 (women) | 40-79 | Prospective cohort | 153,184 person years 223,955 person years | Educational background (age: ≤ 15 years, 16-17 years, ≥ 18 years) | All cancer mortality | Age | RR=1.17 (95%CI: 1.04-1.32) for ≤ 15 years vs ≥ 18 years. RR=1.06 (95%CI: 0.92-1.22) for 16-17 years vs ≥ 18 years. RR=1.10 (95%CI: 0.93-1.30) for ≤ 15 years vs ≥ 18 years. RR=1.02 (95%CI: 0.84-1.23) for 16-17 years vs ≥ 18 years. |
| Honjo K et al. (2014) Int J. Behav Med. 21(5):737-49 | JACC study | 24460 (men) 32649 (women) | 40-65 | Prospective cohort | 16 years (mean follow up period: 14.7 years) | Age at education completed (15 years and younger, 16-18 years old, 19 years and older, Missing) | All cancer mortality | Age, marital status, population size, proportion of aged population, sampling methods, proportion of college graduates (%) | Logistic estimate -0.109 for 16-18 years old vs 15 years and younger. Logistic estimate -0.191 for 19 years and older vs 15 years and younger (p<0.05). Logistic estimate 0.069 for 16-18 years old vs 15 years and younger. Logistic estimate 0.028 for 19 years and older vs 15 years and younger. |
| Fujino Y et al. (2002) Prev Med. 35:121-127. | JACC study | 18746 (men) 26184 (women) | ≥ 18 (in 1949) | Prospective cohort | 10 years (328,030 person years) | Educational background (age: ≤ 15 years, 16-18 years, ≥ 19 years) | Stomach Cancer mortality | Age | RR=0.90 (95%CI: 0.69-1.18) for 16-18 years vs ≤ 15 years. RR=0.72 (95%CI: 0.50-1.04) for ≥ 19 years vs ≤ 15 years. RR=0.89 (95%CI: 0.61-1.31) for 16-18 years vs ≤ 15 years. RR=1.15 (95%CI: 0.61-2.20) for ≥ 19 years vs ≤ 15 years. |
| Ito S et al. (2008) Eur J of Public Health. 5:466-472. | JPHC Cohort study | 18940 (men) 20288 (women) | 40-59 | Prospective cohort | 13 years | Educational level (primary [junior high school], secondary [high school], tertiary [junior college or vocational school, and university or higher]) | All cancer mortality | Sex, age, Public Health Center area | HR=1.22 (95% CI, 0.93-1.59) for women with primary education vs tertiary. HR=0.99 (95% CI, 0.75-1.32) for women with secondary education vs tertiary. (p for trend 0.026) HR=1.31 (95% CI, 0.87-1.96) for women with primary education vs tertiary. HR=1.13 (95% CI, 0.74-1.72) for women with secondary education vs tertiary. (p for trend 0.108) |
| Hirokawa K et al. (2006) European J Epidemiol. 21:641-651 | Jichi Medical School (JMS) cohort study | 4301 (men) 6780 (women) | 35- | Prospective cohort | Mean follow-up period: 9.17 years | Educational level (<15 years, 15 ≤ ; <18 years , ≥ 18 years) | All cancer mortality | Age, educational level, employment status | HR=1.17(95%CI: 0.76-1.79) for 15-17 years vs ≥ 18 years. HR=1.08 (95%CI: 0.64-1.82) for 15 year and younger vs ≥ 18 years. (p for trend 0.78) HR=1.57 (95%CI: 0.84-2.93) for 15-17 years vs ≥ 18 years. HR=1.80 (95%CI: 0.891-3.56) for 15 year and younger vs ≥ 18 years. (p for trend 0.11) |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk | |
|---|---|--|--|--------------------|--------------------------------|---|--------------------------|--|--|---|
| Nishi N et al. (2008) Ann Epidemiol. 18:584-591. | The Life Span Study (LSS) cohort | 12747 (men) | ≤ 74 (in 1978) | Prospective cohort | 23 years (1980.1.1-2003.12.31) | Education level (≤ 9 years, 10-12 years, ≥ 13 years) | All cancer mortality | | HR=1.07 (95%CI: 0.94-1.23) for ≤ 9 years vs ≥ 13 years. HR=0.95 (95%CI: 0.83-1.09) for 10-12 years vs ≥ 13 years. (p for trend 0.14) | |
| | | 20136 (women) | | | | | | | 22 years (1981.1.1-2003.12.31) | HR=1.16 (95%CI: 0.90-1.48) for ≤ 9 years vs ≥ 13 years. HR=1.09 (95%CI: 0.85-1.39) for 10-12 years vs ≥ 13 years. (p for trend 0.15) |
| | | 12747 (men) | | | | | | | 23 years (1980.1.1-2003.12.31) | HR=1.00 (95%CI: 0.74-1.36) for ≤ 9 years vs ≥ 13 years. HR=1.04 (95%CI: 0.77-1.40) for 10-12 years vs ≥ 13 years. (p for trend 0.94) |
| | | 20136 (women) | | | | | | | 22 years (1981.1.1-2003.12.31) | HR=0.83 (95%CI: 0.47-1.45) for ≤ 9 years vs ≥ 13 years. HR=0.83 (95%CI: 0.48-1.45) for 10-12 years vs ≥ 13 years. (p for trend 0.70) |
| | | 12747 (men) | | | | | | | 23 years (1980.1.1-2003.12.31) | HR=0.88 (95%CI: 0.56-1.39) for ≤ 9 years vs ≥ 13 years. HR=1.03 (95%CI: 0.67-1.60) for 10-12 years vs ≥ 13 years. P for trend 0.48 |
| | | 20136 (women) | | | | | | | 22 years (1981.1.1-2003.12.31) | HR=1.40 (95%CI: 0.61-3.23) for ≤ 9 years vs ≥ 13 years. HR=1.43 (95%CI: 0.62-3.28) for 10-12 years vs ≥ 13 years. (p for trend 0.75) |
| | | 12747 (men) | | | | | | | 23 years (1980.1.1-2003.12.31) | HR=1.50 (95%CI: 1.11-2.04) for ≤ 9 years vs ≥ 13 years. HR=1.05 (95%CI: 0.77-1.42) for 10-12 years vs ≥ 13 years. (p for trend 0.002) |
| | | 20136 (women) | | | | | | | 22 years (1981.1.1-2003.12.31) | HR=1.70 (95%CI: 0.79-3.66) for ≤ 9 years vs ≥ 13 years. HR=1.42 (95%CI: 0.66-3.06) for 10-12 years vs ≥ 13 years. (p for trend 0.09) |
| | | 12747 (men) | | | | | | | 23 years (1980.1.1-2003.12.31) | HR=1.04 (95%CI: 0.78-1.39) for ≤ 9 years vs ≥ 13 years. HR=0.87 (95%CI: 0.65-1.17) for 10-12 years vs ≥ 13 years. (p for trend 0.49) |
| | | 20136 (women) | | | | | | | 22 years (1981.1.1-2003.12.31) | HR=1.30 (95%CI: 0.63-2.70) for ≤ 9 years vs ≥ 13 years. HR=1.08 (95%CI: 0.52-2.23) for 10-12 years vs ≥ 13 years. (p for trend 0.19) |
| 20136 (women) | 22 years (1981.1.1-2003.12.31) | HR=1.16 (95%CI: 0.51-2.63) for ≤ 9 years vs ≥ 13 years. HR=1.28 (95%CI: 0.59-2.81) for 10-12 years vs ≥ 13 years. (p for trend 0.94) | | | | | | | | |
| 12747 (men) | 23 years (1980.1.1-2003.12.31) | HR=3.21 (95%CI: 1.13-9.15) for ≤ 9 years vs ≥ 13 years. HR=1.89 (95%CI: 0.64-5.59) for 10-12 years vs ≥ 13 years. (p for trend 0.01) | | | | | | | | |
| Kuwahara A et al. (2010). Gastric Cancer. 13:222-230. | JPHC Cohort study (among gastric cancer patients) | 522 (men) 203 (women) | 40-59 | Prospective cohort | 16 years | Educational level (junior high school, high school, college or higher) | Gastric cancer mortality | Age at diagnosis | HR=1.06 (95%CI: 0.57-1.99) for high school vs college or higher. HR=1.26 (95%CI: 0.68-2.30) for jr high school vs college or higher. HR=3.32 (95%CI: 0.77-14.35) for high school vs college or higher. HR=2.45 (95%CI: 0.58-10.35) for jr high school vs college or higher. | |
| Cancer morbidity | | | | | | | | | | |
| Fujino Y et al. (2008) Cancer Causes Control. 19:931-937. | JACC study | 32646 (women) | 40-79 | Prospective cohort | 13 years | level of education (<16, 16-18, 18< years) | Breast cancer incidence | Age, BMI, alcohol, smoking, stress, hours of walking, hours of exercise, attendance at breast cancer screening program, breast self-examination, number of pregnancies, number of deliveries, age at first delivery, age at menarche, age at menopause | HR=1.33 (95%CI: 0.90-1.97) for 16-18 years vs <16 years. HR=1.97 (95%CI: 1.19-3.26) for 18< years vs <16 years. (p for trend 0.010) | |
| | | | 40-79 who aged 18 years or above in 1949 | | | | | | HR=0.86 (95%CI: 0.49-1.53) for 16-18 years vs <16 years. HR=1.60 (95%CI: 0.76-3.38) for 18< years vs <16 years. (p for trend 0.419) | |
| | | | 40-79 who aged under 18 years in 1949 | | | | | | HR=1.90 (95%CI: 1.07-3.38) for 16-18 years vs <16 years. HR=2.51 (95%CI: 1.23-5.12) for 18< years vs <16 years. (p for trend 0.009) | |
| Ito S et al. (2008) Eur J of Public Health. 5:466-472. | JPHC Cohort study | 18940 (men) 20288 (women) | 40-59 | Prospective cohort | 12 years | Educational level (primary [junior high school], secondary [high school], tertiary [junior college or vocational school, and university or higher]) | All cancer incidence | Sex, age, Public Health Center area | HR=1.04 (95% CI, 0.87-1.24) for women with primary education vs tertiary. HR=0.98 (95% CI, 0.82-1.18) for women with secondary education vs tertiary. (p for trend 0.454) HR=1.02 (95% CI, 0.83-1.27) for women with primary education vs tertiary. HR=1.02 (95% CI, 0.81-1.27) for women with secondary education vs tertiary. (p for trend 0.832) | |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|---|--|---------------|----------------|--------------------|--|---|---------------------------------------|--|---|
| Nishi N et al. (2008) Ann Epidemiol. 18:584-591. | The Life Span Study (LSS) cohort | 12747 (men) | ≤ 74 (in 1978) | Prospective cohort | 23 years (1980.1.1-2003.12.31) | Education level (≤ 9 years, 10-12 years, ≥ 13 years) | All cancer incidence | Age, BMI, smoking, DS02 radiation dose estimates, city | HR=1.20 (95%CI: 1.07-1.35) for ≤ 9 years vs ≥ 13 years. HR=1.10 (95%CI: 0.99-1.23) for 10-12 years vs ≥ 13 years. (p for trend 0.001) |
| | | 20136 (women) | | | | | | | HR=1.14 (95%CI: 0.95-1.37) for ≤ 9 years vs ≥ 13 years. HR=1.10 (95%CI: 0.92-1.31) for 10-12 years vs ≥ 13 years. (p for trend 0.18) |
| | | 12747 (men) | | | | | | | HR=1.07 (95%CI: 0.86-1.34) for ≤ 9 years vs ≥ 13 years. HR=1.03 (95%CI: 0.83-1.28) for 10-12 years vs ≥ 13 years. (p for trend 0.52) |
| | | 20136 (women) | | | | | | | HR=0.73 (95%CI: 0.51-1.06) for ≤ 9 years vs ≥ 13 years. HR=0.65 (95%CI: 0.45-0.94) for 10-12 years vs ≥ 13 years. (p for trend 0.86) |
| | | 12747 (men) | | | | | | | HR=1.08 (95%CI: 0.79-1.48) for ≤ 9 years vs ≥ 13 years. HR=1.26 (95%CI: 0.94-1.70) for 10-12 years vs ≥ 13 years. (p for trend 0.93) |
| | | 20136 (women) | | | | | | | HR=1.30 (95%CI: 0.75-2.26) for ≤ 9 years vs ≥ 13 years. HR=1.43 (95%CI: 0.83-2.46) for 10-12 years vs ≥ 13 years. (p for trend 0.90) |
| | | 12747 (men) | | | | | | | HR=1.60 (95%CI: 1.18-2.17) for ≤ 9 years vs ≥ 13 years. HR=1.14 (95%CI: 0.85-1.54) for 10-12 years vs ≥ 13 years. (p for trend <0.001) |
| | | 20136 (women) | | | | | | | HR=1.07 (95%CI: 0.57-2.02) for ≤ 9 years vs ≥ 13 years. HR=0.94 (95%CI: 0.51-1.75) for 10-12 years vs ≥ 13 years. (p for trend 0.43) |
| | | 12747 (men) | | | | | | | HR=1.24 (95%CI: 0.91-1.70) for ≤ 9 years vs ≥ 13 years. HR=1.09 (95%CI: 0.80-1.49) for 10-12 years vs ≥ 13 years. (p for trend 0.13) |
| | | 20136 (women) | | | | | | | HR=1.35 (95%CI: 0.70-2.59) for ≤ 9 years vs ≥ 13 years. HR=0.94 (95%CI: 0.49-1.81) for 10-12 years vs ≥ 13 years. (p for trend 0.03) |
| 20136 (women) | HR=1.09 (95%CI: 0.69-1.71) for ≤ 9 years vs ≥ 13 years. HR=1.27 (95%CI: 0.83-1.95) for 10-12 years vs ≥ 13 years. (p for trend 0.56) | | | | | | | | |
| 12747 (men) | HR=1.59 (95%CI: 0.98-2.58) for ≤ 9 years vs ≥ 13 years. HR=1.10 (95%CI: 0.67-1.83) for 10-12 years vs ≥ 13 years. (p for trend 0.56) | | | | | | | | |
| CVD mortality | | | | | | | | | |
| Fujino Y et al. (2005) Prev Med. 40:444-451. | JACC study | 16715 (men) | 40-79 | Prospective cohort | 153,184 person years | Educational background (age: ≤ 15 years, 16-17 years, ≥ 18 years) | Circulatory system diseases mortality | Age | RR=1.06 (95%CI: 0.93-1.21) for ≤ 15 years vs ≥ 18 years. RR=1.01 (95%CI: 0.86-1.18) for 16-17 years vs ≥ 18 years. |
| | | 23284 (women) | | | | | | | RR=1.27 (95%CI: 1.08-1.50) for ≤ 15 years vs ≥ 18 years. RR=1.05 (95%CI: 0.87-1.27) for 16-17 years vs ≥ 18 years. |
| | | 16715 (men) | | | | | | | RR=0.77 (95%CI: 0.58-1.01) for ≤ 15 years vs ≥ 18 years. RR=0.90 (95%CI: 0.65-1.24) for 16-17 years vs ≥ 18 years. |
| | | 23284 (women) | | | | | | | RR=1.01 (95%CI: 0.70-1.44) for ≤ 15 years vs ≥ 18 years. RR=0.84 (95%CI: 0.54-1.30) for 16-17 years vs ≥ 18 years. |
| | | 16715 (men) | | | | | | | RR=1.23 (95%CI: 1.01-1.50) for ≤ 15 years vs ≥ 18 years. RR=1.05 (95%CI: 0.82-1.34) for 16-17 years vs ≥ 18 years. |
| | | 23284 (women) | | | | | | | RR=1.44 (95%CI: 1.13-1.83) for ≤ 15 years vs ≥ 18 years. RR=1.03 (95%CI: 0.77-1.38) for 16-17 years vs ≥ 18 years. |
| Honjo K et al. (2014) Int J. Behav Med. 21(5):737-49 | JACC study | 24460 (men) | 40-65 | Prospective cohort | 16 years (mean follow up period: 14.7 years) | Age at education completed (15 years and younger, 16-18 years old, 19 years and older, Missing) | CVD mortality | Age, marital status, population size, proportion of aged population, sampling methods, proportion of college graduates (%) | Logistic estimate -0.110 for 16-18 years old vs 15 years and younger. Logistic estimate -0.367 for 19 years and older vs 15 years and younger (p<0.05). |
| | | 32649 (women) | | | | | | | Logistic estimate -0.229 for 16-18 years old vs 15 years and younger (p<0.05). Logistic estimate -0.471 for 19 years and older vs 15 years and younger (p<0.05). |
| Ito S et al. (2008) Eur J of Public Health. 5:466-472. | JPHC Cohort study | 18940 (men) | 40-59 | Prospective cohort | 13 years | Educational level (primary [junior high school], secondary [high school], tertiary [junior college or vocational school, and university or higher]) | CVD mortality | Sex, age, Public Health Center area | HR=1.70 (95% CI: 1.14-2.52) for men with primary education vs tertiary. HR=1.28 (95% CI: 0.85-1.94) for men with secondary education vs tertiary. (p for trend = 0.001) |
| | | 20288 (women) | | | | | | | HR=1.120 (95% CI: 0.68-2.12) for women with primary education vs tertiary. HR=0.87 (95% CI: 0.47-1.60) for women with secondary education vs tertiary. (p for trend = 0.17) |
| Hirokawa K et al. (2006) European J Epidemiol. 21:641-651 | Jichi Medical School (JMS) cohort study | 4301 (men) | 35- | Prospective cohort | Mean follow-up period: 9.17 years | Educational level (<15 years, 15≤; <18 years, ≥ 18 years) | CVD mortality | Age, educational level, employment status | HR=2.36 (95%CI: 1.09-1.79) for 15-17 years vs ≥ 18 years. HR=3.26(95%CI: 1.43-7.48) for <15 years vs ≥ 18 years. (p for trend 0.00) |
| | | 6780 (women) | | | | | | | HR=1.11 (95%CI: 0.49-2.50) for 15-17 years vs ≥ 18 years. HR=1.42 (95%CI: 0.63-3.20) for <15 years vs ≥ 18 years. (p for trend 0.32) |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|---|---------------|--------------|---|-----------------|--|---|--|---|
| CVD morbidity | | | | | | | | | |
| Ito S et al. (2008) Eur J of Public Health. 5:466-472. | JPHC Cohort study | 18940 (men) | 40-59 | Prospective cohort | 12 years | Educational level (primary [junior high school] , secondary [high school], tertiary [junior college or vocational school, and university or higher]) | CVD incidence | Sex, age, Public Health Center area | HR=0.92 (95% CI: 0.73-1.16) for men with primary education vs tertiary. HR=0.94 (95% CI: 0.74-1.19) for men with secondary education vs tertiary. (p for trend 0.492) |
| | | 20288 (women) | | | | | | | HR=1.27 (95% CI: 0.87-1.86) for women with primary education vs tertiary. HR=0.85 (95% CI: 0.57-1.28) for women with secondary education vs tertiary. (p for trend 0.007) |
| | | | | | | | | | HR=1.63 (95% CI: 1.29-2.06) for junior high school education vs high school education. HR=1.41 (95% CI: 0.96-2.05) for college or higher education vs high school education. Among people who are not working (n=5560) HR=2.21 (95% CI: 1.45-3.37) for junior high school education vs high school education. HR=1.08 (95% CI: 0.47-2.48) for college or higher education vs high school education. Among people who are working (n=14744) HR=1.46 (95% CI: 1.09-1.94) for junior high school education vs high school education. HR=1.51 (95% CI: 0.98-2.31) for college or higher education vs high school education. (p for trend 0.002) |
| | | | | | | | Total stroke incidence | | HR=1.13 (95% CI: 0.78-1.66) for junior high school education vs high school education. HR=0.86 (95% CI: 0.43-1.72) for college or higher education vs high school education. Among people who are not working (n=5560) HR=1.33 (95% CI: 0.70-2.50) for junior high school education vs high school education. HR=NA for college or higher education vs high school education. Among people who are working (n=14744) HR=1.02 (95% CI: 0.62-1.66) for junior high school education vs high school education. HR=1.28 (95% CI: 0.62-2.67) for college or higher education vs high school education. |
| | | | | | | | Intraparenchymal hemorrhage | | HR=2.20 (95% CI: 1.34-3.60) for junior high school education vs high school education. HR=2.20 (95% CI: 1.08-4.48) for college or higher education vs high school education. Among people who are not working (n=5560) HR=2.22 (95% CI: 0.90-5.48) for junior high school education vs high school education. HR=1.40 (95% CI: 0.28-6.93) for college or higher education vs high school education. Among people who are working (n=14744) HR=2.36 (95% CI: 1.29-4.32) for junior high school education vs high school education. HR=2.67 (95% CI: 1.18, 6.04) for college or higher education vs high school education. |
| Honjo K et al. (2008) Stroke ;39:2886-2890. | JPHC Cohort study | 20543 (women) | 40-59 | Prospective cohort | 12 years | Educational level (junior high school education, high school education, and any college or higher education) | Subarachnoid hemorrhage incidence | Age, area | HR=1.90 (95% CI: 1.30-2.76) for junior high school education vs high school education. HR=1.60 (95% CI: 0.87-2.93) for college or higher education vs high school education. Among people who are not working (n=5560) HR=3.98 (95% CI: 1.81-8.77) for junior high school education vs high school education. HR=3.04 (95% CI: 0.97-9.60) for college or higher education vs high school education. Among people who are working (n=14744) HR=1.44 (95% CI: 0.92-2.25) for junior high school education vs high school education. HR=1.16 (95% CI: 0.54-2.46) for college or higher education vs high school education. |
| | | | | | | | | | HR=0.79 (95% CI: 0.45-1.41) for junior high school education vs high school education. HR=0.58 (95% CI: 0.17-1.95) for college or higher education vs high school education. Among people who are not working (n=5560) HR=0.66 (95% CI: 0.27-1.60) for junior high school education vs high school education. HR=NA for college or higher education vs high school education. Among people who are working (n=14744) HR=1.13 (95% CI: 0.50-2.57) for junior high school education vs high school education. HR=1.15 (95% CI: 0.31-4.32) for college or higher education vs high school education. |
| | | | | | | | | | HR=1.90 (95% CI: 1.30-2.76) for junior high school education vs high school education. HR=1.60 (95% CI: 0.87-2.93) for college or higher education vs high school education. Among people who are not working (n=5560) HR=3.98 (95% CI: 1.81-8.77) for junior high school education vs high school education. HR=3.04 (95% CI: 0.97-9.60) for college or higher education vs high school education. Among people who are working (n=14744) HR=1.44 (95% CI: 0.92-2.25) for junior high school education vs high school education. HR=1.16 (95% CI: 0.54-2.46) for college or higher education vs high school education. |
| | | | | | | | Ischemic stroke incidence | | HR=0.79 (95% CI: 0.45-1.41) for junior high school education vs high school education. HR=0.58 (95% CI: 0.17-1.95) for college or higher education vs high school education. Among people who are not working (n=5560) HR=0.66 (95% CI: 0.27-1.60) for junior high school education vs high school education. HR=NA for college or higher education vs high school education. Among people who are working (n=14744) HR=1.13 (95% CI: 0.50-2.57) for junior high school education vs high school education. HR=1.15 (95% CI: 0.31-4.32) for college or higher education vs high school education. |
| | | | | | | | Coronary heart disease | | HR=0.56 (95% CI: 0.39-0.80) for high school education vs junior high school education. HR=0.99 (95% CI: 0.061-1.58) for college graduates vs junior high school education. |
| Honjo K et al. (2012) J Epidemiol. 22:324-330. | JPHC Cohort | 9317 (women) | 40-59 | Prospective cohort | 16 years | Education level (junior high school, high school, junior college/ vocational school/ college) | Stroke incidence | Age, area | HR=0.69 (95% CI: 0.57-0.84) for high school vs junior high school HR=0.81 (95% CI: 0.59-1.10) for junior college/ vocational school/ college vs junior high school |
| Honjo K et al. (2014). Stroke. 45:2592-2598. | JPHC Cohort | 14742 (women) | 40-59 | Prospective cohort | 20 years | Education level (junior high school, high school, junior college/ vocational school/ college) | Stroke incidence | Age, marital status, geographical area | |
| Self-rated Health | | | | | | | | | |
| Nishi N et al. (2004) Soc Sci Med. 58:1159-1170. | — | 968 (men) | 35-64 | Cross sectional (Civil servants working in Takarazuka City) | — | Education (University, High school, junior high school) | Poor self-rated health (0: excellent, very good or good, 1: fair or poor) | Age | OR=1.18 (95% CI: 0.89-1.55) for high school vs university. OR=2.09 (95% CI: 1.28-3.42) for junior high school vs university. (p for trend 0.01) |
| | | 393 (women) | | | | | | | OR=0.96 (95% CI: 0.60-1.53) for high school vs university. OR=1.59 (95% CI: 0.77-3.28) for junior high school vs university. (p for trend 0.38) |
| | | | | | | | | | Educational attainment OR=1.07 (95% CI: 0.82-1.41) for 12 years vs 13 years or longer. OR=1.21 (95% CI: 0.89-1.64) for 11 years or shorter vs 13 years or longer. (p for trend n.s.) |
| | | 1314 (men) | | | | | | | Educational attainment OR=1.15 (95% CI: 0.89-1.49) for 12 years vs 13 years or longer. OR=1.63 (95% CI: 1.21-2.21) for 11 years or shorter vs 13 years or longer. (p for trend 0.02) |
| | | 1673 (women) | | | | | | | Self-rated physical health (asked to rate general physical health on a five-point scale: "good physical health"="excellent" or "very good" or "good", "poor physical health"="fair" or "poor") |
| Honjo K et al. (2006). J Epidemiol. 146:223-232. | World Mental Health Japan (WMHJ) survey | 601 (women) | ≥ 20 | Cross sectional | — | Educational attainment (13 years or longer, 12 years, 11 years or shorter) | | Age, marital status, area | OR=1.30 (95% CI: 0.79-2.13) for 12 years vs 13 years or longer. OR=1.54 (95% CI: 0.87-2.75) for 11 years or shorter vs 13 years or longer. (p for trend 0.22) |
| | | 1010 (women) | | | | | | | By employment situation (Worker) OR=1.19 (95% CI: 0.77-1.46) for 12 years vs 13 years or longer. OR=1.72 (95% CI: 1.19-2.50) for 11 years or shorter vs 13 years or longer. (p for trend 0.14) |
| | | 62 (women) | | | | | | | By employment situation (Retired) OR=1.16 (95% CI: 0.22-6.01) for 12 years vs 13 years or longer. OR=1.00 (95% CI: 0.14-7.02) for 11 years or shorter vs 13 years or longer. (p for trend n.s.) |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|---|--------------|------------------------------------|--|-----------------|--|--|--|--|
| Wang Net al. (2005) J Epidemiol. 5:155-162. | the Komo-Ise study | 4523 (men) | 47-77 | Prospective cohort | 7 years | More than high school vs high school or less | Self-reported fair or poor health | Age, area | OR=0.97 (95%CI: 0.83-1.13) for high school or less vs more than high school. |
| | | 5127 (women) | | | | | | | OR=1.12 (95%CI: 0.95-1.31) for high school or less vs more than high school. |
| Miyake Y et al.(2012). BMC Psychiatry. 12:117. | Kyushu Okinawa Maternal and Child Health Study (KOMCHS) | 1741 (women) | NA (age, years, mean±SD: 31.2±4.4) | Cross sectional | — | Education (<13years, 13-14 years, ≥15years) | Antenatal depression (CES-D score ≥16) | Age, gestation, region of residence, family structure, history of depression, family history of depression, smoking, and secondhand smoke exposure at home and at work | OR=1.00 (95% CI: 0.73-1.37) for 13-14 years vs 12 and less OR=0.72(95% CI: 0.52-0.99) for 15 and more vs 12 and less |
| Psychological distress/depression | | | | | | | | | |
| Honjo K et al. (2006). J Epidemiol. 146:223-232. | World Mental Health Japan (WMHJ) survey | 1314 (men) | ≥20 | Cross sectional | — | Educational attainment (13 years or longer, 12 years, 11 years or shorter) | Self-rated mental health (asked to rate general mental health on a five-point scale: "good mental health"="excellent" or "very good" or "good", "poor mental health"="fair" or "poor") | Age, marital status, area | Educational attainment OR=1.11 (95%CI: 0.84-1.48) for 12 years vs 13 years or longer. OR=1.29 (95%CI: 0.95-1.76) for 11 years or shorter vs 13 years or longer. (p for trend n.s.) |
| | | 1673 (women) | | | | | | | Educational attainment OR=1.22 (95%CI: 0.95-1.58) for 12 years vs 13 years or longer. OR=1.46 (95%CI: 1.08-1.97) for 11 years or shorter vs 13 years or longer. (p for trend 0.04) |
| | | 601 (women) | | | | | | | By employment situation (Housewife) OR=1.28 (95%CI: 0.77-2.13) for 12 years vs 13 years or longer. OR=1.42 (95%CI: 0.78-2.58) for 11 years or shorter vs 13 years or longer. (p for trend 0.20) |
| | | 1010 (women) | | | | | | | By employment situation (Worker) OR=1.21 (95%CI: 0.90-1.65) for 12 years vs 13 years or longer. OR=1.43 (95%CI: 1.00-2.07) for 11 years or shorter vs 13 years or longer. (p for trend 0.55) |
| Ochi M et al. (2014) BMC Public Health. 14:359. | World Mental Health Japan (WMHJ) survey | 734 (men) | ≥20 | Cross sectional | — | Education (0-11 years, 12 years, 13-15 years, 16- years) | Depression (WHO-CIDI 3.0) | Age, parental education, childhood characteristics (parental mental illness, childhood physical illness), adulthood annual household income | OR=1.05 (95%CI: 0.35-3.18) for 12 years vs 0-11 years. OR=1.59 (95%CI: 0.45-5.65) for 13-15 years vs 0-11 years. OR=3.14 (95%CI: 1.08-9.14) for 16- years vs 0-11 years. OR=2.39 (95%CI: 1.19-4.81) for 12 years vs 0-11 years. OR=1.95 (95%CI: 0.86-4.46) for 13-15 years vs 0-11 years. OR=2.45 (95%CI: 0.92-6.49) for 16- years vs 0-11 years. |
| | | 948 (women) | | | | | | | OR=1.58 (95%CI: 1.00-2.52) for high school/technical college/two-year college vs university graduates. OR=2.19 (95%CI:1.11-4.32) for junior high school or less vs university graduates. (p for trend 0.016) |
| Sakurai K et al. (2010) Soc Sci Med. 70:1832-1839. | — | 574 (men) | 20-74 | Cross sectional (Nationally representative community-based random sample of residents in Japan) | — | Education (university graduates or higher, high school/technical college/two-year college, junior high school or less) | Psychological distress (measured by Japanese version of the K6 scale. K6≥5=psychological distress) | Demographic variables(age, marital status) | OR=1.04 (95%CI: 0.58-1.86) for high school/technical college/two-year college vs university graduates. OR=1.62 (95%CI: 0.73-3.63) for junior high school or less vs university graduates. (p for trend 0.255) |
| | | 621 (women) | | | | | | | OR=1.07 (95%CI: 0.73-1.56) for some tertiary education vs compulsory/senior high school. OR=0.98 (95%CI: 0.64-1.49) for graduate degree or higher vs compulsory/senior high school. |
| Fushimi M et al. (2013) Community Ment Health J. 49:236-242. | Northern Japan Occupational Health Promotion Centers Collaboration Study for Mental Health(NOCS-MH) | 1069 (men) | NA | Cross sectional | — | Education (compulsory/senior high school, some tertiary education, graduate degree or higher) | Depressive Symptoms (CES-D ≥16) | Age, employment status, employee type, job category, working hours per day, sleep duration, smoking behavior, alcohol consumption | OR=0.82 (95%CI: 0.58-1.14) for some tertiary education vs compulsory/senior high school. OR=0.88 (95%CI: 0.46-1.65) for graduate degree or higher vs compulsory/senior high school. |
| | | 1151 (women) | | | | | | | OR=1.33 (95%CI: 0.93-1.89) for up to high school vs college degree or higher. OR=1.20 (95%CI: 0.82-1.75) for up to high school vs college degree or higher. |
| Kikuchi H et al. (2013) Psychogeriatrics. 13:229-236 | — | 971 (men) | 65-74 | Cross sectional (Community residents living in three Japanese municipalities: Bunkyo ward, Fuchu city, Oyama town) | — | Education attainment (college degree or higher(≥13 years), up to high school (<13 years)) | Psychological distress (K6≥5) | Age group, area, living arrangement, employmen status, physical limitation (Japanese version of eight-item short-form health survey) | OR=1.33 (95%CI: 0.93-1.89) for up to high school vs college degree or higher. OR=1.20 (95%CI: 0.82-1.75) for up to high school vs college degree or higher. |
| | | 923 (women) | | | | | | | OR=1.96 (95%CI: 1.47-2.60) for high school vs university. OR=2.07 (95%CI: 0.98-4.34) for junior high school vs university. (p for trend <0.001) |
| Nishi N et al. (2004) Soc Sci Med. 58:1159-1170. | — | 968 (men) | 35-64 | Cross sectional (Civil servants working in Takarazuka City) | — | Education (university, high school, junior high school) | Smoking (0—non-and ex-smoker, 1—current smoker) | Age | OR=3.44 (95%CI: 1.53-7.73) for high school vs university. OR=5.48 (95%CI: 1.55-19.39) for junior high school vs university. (p for trend 0.002) |
| | | 393 (women) | | | | | | | OR=1.90 (95%CI: 0.81-4.50) for elementary / junior high school vs university. OR=1.89 (95%CI: 1.30-2.64) for high school vs university. OR=1.54 (95%CI: 0.89-2.68) for junior college vs university. |
| Hu L. et al. (2007) J Occup Health. 49(6):443-52. | Annual survey on health, lifestyle habits and work stress among civil servants | 707 (men) | 20-64 | Cross sectional | — | Education (elementary /junior high school, high school, Junior college, university) | Smoking (current smoker) | Unadjusted | OR=1.68 (95%CI: 0.28-9.96) for elementary /junior high school vs university. OR=0.58 (95%CI: 0.14-2.42) for high school vs university. OR=0.72 (95%CI: 0.24-2.18) for junior college vs university. |
| | | 598 (women) | | | | | | | |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|--|--------------------------|--------------|---|-----------------|---|--|---|--|
| Alcohol intake | | | | | | | | | |
| Nishi N et al. (2004) Soc Sci Med. 58:1159-1170. | — | 968 (men) 393 (women) | 35-64 | Cross sectional (Civil servants working in Takarazuka City) | — | Education (university, high school, junior high school) | Alcohol drinking (0—three times a week or less, 1—almost daily or daily) | Age | OR=0.83 (95%CI: 0.63-1.10) for high school vs university. OR=0.80 (95%CI: 0.39-1.61) for junior high school vs university. (p for trend 0.21) OR=2.42 (95%CI: 1.29-4.53) for high school vs university. OR=1.20 (95%CI: 0.29-4.91) for junior high school vs university. (p for trend 0.06) |
| Table2. Income and health factors | | | | | | | | | |
| Author, published year | Studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
| All cause mortality | | | | | | | | | |
| Cancer mortality | | | | | | | | | |
| Cancer morbidity | | | | | | | | | |
| CVD mortality | | | | | | | | | |
| CVD morbidity | | | | | | | | | |
| Self-rated Health | | | | | | | | | |
| Honjo K et al. (2006). J Epidemiol. 146:223-232. | World Mental Health Japan (WMHJ) survey | 1314 (men) | ≥ 20 | Cross sectional | — | Adjusted household income (highest, 2nd highest, 2nd lowest, Lowest) | Self-rated physical health (asked to rate general physical health on a five-point scale; "good physical health"="excellent" or "very good" or "good", "poor physical health"="fair" or "poor") | Age, marital status, area | Adjusted household income model OR=0.90 (95%CI: 0.65-1.25) for 2nd highest vs highest. OR=1.04 (95%CI: 0.78-1.57) for 2nd lowest vs highest. OR=0.92 (95%CI: 0.66-1.28) for lowest vs highest. (p for trend n.s.) |
| | | 1673 (women) | | | | | | | Adjusted household income model OR=1.02 (95%CI: 0.71-1.44) for 2nd highest vs highest. OR=1.38 (95%CI: 0.98-1.95) for 2nd lowest vs highest. OR=1.57 (95%CI: 1.14-2.17) for lowest vs highest. (p for trend <0.001) |
| | | 601 (women) | | | | | | | By employment situation (Housewife) OR=1.26 (95%CI: 0.64-2.47) for 2nd highest vs highest. OR=1.10 (95%CI: 0.59-2.03) for 2nd lowest vs highest. OR=1.58 (95%CI: 0.87-2.85) for lowest vs highest. (p for trend 0.13) |
| | | 1010 (women) | | | | | | | By employment situation (Worker) OR=0.91 (95%CI: 0.59-1.38) for 2nd highest vs highest. OR=1.59 (95%CI: 1.03-2.46) for 2nd lowest vs highest. OR=1.55 (95%CI: 1.05-2.30) for lowest vs highest. (p for trend 0.03) |
| Wang Net al. (2005) J Epidemiol. 5:155-162. | the Komo-Ise study | 2542 (men) | 44-77 | Prospective cohort | 7 years | Household income | Self-reported fair or poor health | Age, area | OR=1.74 (95%CI: 1.40-2.16) for less than 3.00 vs 10.00+ (million yen/year). OR=1.41 (95%CI: 1.15-1.73) for 3.00 to 4.99 vs 10.00+. OR=1.36 (95%CI: 1.10-1.69) for 5.00 to 6.99 vs 10.00+. OR=1.21 (95%CI: 0.97-1.49) for 7.00 to 9.99 vs 10.00+. (p for trend <0.0001) |
| | | 2634 (women) | | | | | | | OR=1.56 (95%CI: 1.27-96) for less than 3.00 vs 10.00+ (million yen/year). OR=1.45 (95%CI: 1.17-1.79) for 3.00 to 4.99 vs 10.00+. OR=1.53 (95%CI: 1.22-1.92) for 5.00 to 6.99 vs 10.00+. OR=1.27 (95%CI: 1.01-1.58) for 7.00 to 9.99 vs 10.00+. (p for trend <0.0001) |
| Psychological distress/depression | | | | | | | | | |
| Fukuda Y et al. (2005) BMC Public Health | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 20030 (men) | 25-59 | Cross sectional | — | Annual household income before tax, including benefits and inheritance (income quintile) | Stress (question: "Do you have any stress or worries in your daily life?" answers: "yes" defined as being stressed.) | Age, marital status, occupation, per capita income, unemployment(%) | OR=1.10 (95%CI: 1.00-1.20) for 4th vs 5th. OR=1.07 (95%CI: 0.97-1.17) for 3th vs 5th. OR=1.09 (95%CI: 0.99-1.20) for 2th vs 5th. OR=1.15 (95%CI: 1.05-1.27) for 1th vs 5th. OR=1.06 (95%CI: 0.97-1.17) for 4th vs 5th. OR=1.11 (95%CI: 1.01-1.22) for 3th vs 5th. OR=1.14 (95%CI: 1.04-1.26) for 2th vs 5th. OR=1.26 (95%CI: 1.14-1.39) for 1th vs 5th. |
| | | 21076 (women) | | | | | | | OR=1.36 (95%CI: 0.64-2.91) for <5.99 million yen per year vs >10 million yen per year. OR=2.03 (95%CI: 0.90-4.58) for 2-4.99 million yen per year vs >10 million yen per year. OR=2.05 (95%CI: 0.73-5.75) for <2 million yen per year vs >10 million yen per year. OR=1.24 (95%CI: 0.54-2.82) for unknown vs >10 million yen per year. (p for trend 0.001) |
| Sakurai K et al. (2010) Soc Sci Med. 70:1832-1839. | — | 574 (men) | 20-74 | Cross sectional (Nationally representative community-based random sample of residents in Japan) | — | Household income (>10 million yen per year, 5-9.99 million yen per year, 2-4.99 million yen per year, <2 million yen per year, unknown) | Psychological distress (measured by Japanese version of the K6 scale. K6 ≥ 5=psychological distress) | Demographic variables (age, marital status) | OR=0.96 (95%CI: 0.52-1.78) for <5.99 million yen per year vs >10 million yen per year. OR=0.63 (95%CI: 0.33-1.20) for 2-4.99 million yen per year vs >10 million yen per year. OR=1.06 (95%CI: 0.44-2.56) for <2 million yen per year vs >10 million yen per year. OR=0.56 (95%CI: 0.29-1.09) for unknown vs >10 million yen per year. (p for trend 0.325) |
| | | 621 (men) | | | | | | | |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|--|--------------------------|------------------------------------|-----------------|-----------------|--|---|--|--|
| Honjo K et al. (2006). J Epidemiol. 146:223-232. | World Mental Health Japan (WMHJ) survey | 1314 (men) | ≥ 20 | Cross sectional | — | Adjusted household income (highest, 2nd highest, 2nd lowest, Lowest) | Self-rated mental health(asked to rate general mental health on a five-point scale; "good mental health"="excellent" or "very good" or "good", "poor mental health"="fair" or "poor") | Age, marital status, area | Adjusted household income model OR=0.86 (95%CI: 0.61-1.21) for 2nd highest vs highest. OR=1.07 (95%CI: 0.75-1.53) for 2nd lowest vs highest. OR=1.11 (95%CI: 0.80-1.55) for lowest vs highest. (p for trend n.s.) |
| | | 1673 (women) | | | | | | | Adjusted household income model OR=0.98 (95%CI: 0.69-1.39) for 2nd highest vs highest. OR=1.11 (95%CI: 0.80-1.56) for 2nd lowest vs highest. OR=1.14 (95%CI: 0.83-1.56) for lowest vs highest. (p for trend 0.004) |
| | | 601 (women) | | | | | | | By employment situation (Housewife) OR=0.84 (95%CI: 0.43-1.66) for 2nd highest vs highest. OR=0.81 (95%CI: 0.44-1.50) for 2nd lowest vs highest. OR=0.82 (95%CI: 0.45-1.49) for lowest vs highest. (p for trend n.s.) |
| | | 1010 (women) | | | | | | | By employment situation (Worker) OR=1.00 (95%CI: 0.66-1.52) for 2nd highest vs highest. OR=1.39 (95%CI: 0.90-2.13) for 2nd lowest vs highest. OR=1.39 (95%CI: 0.94-2.05) for lowest vs highest. (p for trend 0.04) |
| | | 62 (women) | | | | | | By employment situation (Retired) NA | |
| Ochi M et al. (2014) BMC Public Health. 14:359. | World Mental Health Japan (WMHJ) survey | 734 (men) 948 (women) | ≥ 20 | Cross sectional | — | Annual household income (<3 million yen, 3- < 10 million yen, 10+ million yen) | Depression (WHO-CIDI 3.0) | Age, parental education, childhood characteristics (parental mental illness, childhood physical illness), adulthood education attainment | OR=0.91 (95%CI: 0.39-2.09) for 3- < 10 million yen vs < 3 million yen. OR=0.79 (95%CI: 0.31-2.02) for 10+ million yen vs < 3 million yen. OR=0.94 (95%CI: 0.60-1.47) for 3- < 10 million yen vs < 3 million yen. OR=1.12 (95%CI: 0.59-2.14) for 10+ million yen vs < 3 million yen. |
| Miyake Y et al.(2012). BMC Psychiatry. 12:117. | Kyushu Okinawa Maternal and Child Health Study (KOMCHS) | 1741 (women) | NA (age, years, mean±SD: 31.2±4.4) | Cross sectional | — | Household income (< 4,000,000 yen/year, 4,000,000-5,999,999 yen/year, >6,000,000 yen/year) | Antenatal depression (CES-D score ≥16) | Age, gestation, region of residence, family structure, history of depression, family history of depression, smoking, and secondhand smoke exposure at home and at work | OR=0.89 (95%CI: 0.67-1.19) for 4,000,000-5,999,999 yen/year vs 4,000,000 yen/year. OR=0.66 (95%CI: 0.47-0.92) for >6,000,000 yen/year vs 4,000,000 yen/year. |
| Smoking | | | | | | | | | |
| Fukuda Y et al. (2005) BMC Public Health | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 20030 (men) | 25-59 | Cross sectional | — | Annual household income before tax, including benefits and inheritance (income quintile) | Current smoker:"smoke every day"or "smoke on occasion but not every day. | Age,marital status,occupation,per capita income, unemployment(%) | OR=1.11 (95%CI: 1.01-1.21) for 4th vs 5th (highest). OR=1.12 (95%CI: 1.02-1.23) for 3rd vs 5th (highest). OR=1.30 (95%CI: 1.18-1.43) for 2nd vs 5th (highest). OR=1.29 (95%CI: 1.17-1.43) for 1st (lowest) vs 5th (highest). |
| | | 21076 (women) | | | | | | | OR=1.12 (95%CI: 0.97-1.29) for 4th vs 5th (highest). OR=1.34 (95%CI: 1.16-1.54) for 3rd vs 5th (highest). OR=1.66 (95%CI: 1.44-1.90) for 2nd vs 5th (highest). OR=2.03 (95%CI: 1.76-2.33) for 1st (lowest) vs 5th (highest). |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|--|---------------|--------------|-----------------|-----------------|--|---|--|---|
| Fukuda Y et al. (2005) Ann Epidemiol; 15:365-372 | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 20206 (men) | 18-54 | Cross sectional | — | Annual household income before tax, including benefits and inheritance (income quintile) | Current smoker:"smoke every day"or " smoke on occasion but not every day. | Age, residence area, marital status,employment status other smoker | Total OR=0.97 (95%CI: 0.88-1.08) for 2nd vs 1st (lowest). OR=0.83 (95%CI: 0.75-0.92) for 3rd vs 1st (lowest). OR=0.83 (95%CI: 0.75-0.91) for 4th vs 1st (lowest). OR=0.70 (95%CI: 0.63-0.77) for 5th (highest) vs 1st (lowest). |
| | | | 18-24 | | | | | | 18-24 years old OR=0.99 (95%CI: 0.77-1.28) for 2nd vs 1st (lowest). OR=1.00 (95%CI: 0.77-1.30) for 3rd vs 1st (lowest). OR=1.10 (95%CI: 0.86-1.40) for 4th vs 1st (lowest). OR=1.06 (95%CI: 0.82-1.37) for 5th (highest) vs 1st (lowest). |
| | | | 25-39 | | | | | | 25-39 years old OR=0.93 (95%CI: 0.79-1.11) for 2nd vs 1st (lowest). OR=0.74 (95%CI: 0.63-0.88) for 3rd vs 1st (lowest). OR=0.73 (95%CI: 0.62-0.86) for 4th vs 1st (lowest). OR=0.60 (95%CI: 0.51-0.71) for 5th (highest) vs 1st (lowest). |
| | | | 40-54 | | | | | | 40-54 years old OR=1.00 (95%CI: 0.85-1.16) for 2nd vs 1st (lowest). OR=0.89 (95%CI: 0.76-1.04) for 3rd vs 1st (lowest). OR=0.91 (95%CI: 0.79-1.05) for 4th vs 1st (lowest). OR=0.77 (95%CI: 0.67-0.88) for 5th (highest) vs 1st (lowest). |
| | | 21093 (women) | 18-54 | | | | | | Total OR=0.79 (95%CI: 0.70-0.89) for 2nd vs 1st (lowest). OR=0.64 (95%CI: 0.57-0.72) for 3rd vs 1st (lowest). OR=0.49 (95%CI: 0.44-0.56) for 4th vs 1st (lowest). OR=0.41 (95%CI: 0.36-0.46) for 5th (highest) vs 1st (lowest). |
| | | | 18-24 | | | | | | 18-24 years old OR=0.78 (95%CI: 0.58-1.06) for 2nd vs 1st (lowest). OR=0.63 (95%CI: 0.46-0.86) for 3rd vs 1st (lowest). OR=0.55 (95%CI: 0.40-0.75) for 4th vs 1st (lowest). OR=0.41 (95%CI: 0.29-0.57) for 5th (highest) vs 1st (lowest). |
| | | | 25-39 | | | | | | 25-39 years old OR=0.78 (95%CI: 0.65-0.92) for 2nd vs 1st (lowest). OR=0.60 (95%CI: 0.50-0.71) for 3rd vs 1st (lowest). OR=0.47 (95%CI: 0.39-0.56) for 4th vs 1st (lowest). OR=0.29 (95%CI: 0.23-0.35) for 5th (highest) vs 1st (lowest). |
| | | | 40-54 | | | | | | 40-54 year old OR=0.84 (95%CI: 0.69-1.02) for 2nd vs 1st (lowest). OR=0.78 (95%CI: 0.64-0.95) for 3rd vs 1st (lowest). OR=0.60 (95%CI: 0.49-0.73) for 4th vs 1st (lowest). OR=0.64 (95%CI: 0.53-0.77) for 5th (highest) vs 1st (lowest). |

Alcohol intake

| | | | | | | | | | |
|---|--|---------------|-------|-----------------|---|--|--|---|---|
| Fukuda Y et al. (2005) BMC Public Health | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 20030 (men) | 25-59 | Cross sectional | — | Annual household income before tax, including benefits and inheritance (income quintile) | Excess alcohol consumption more than 2.0 "gou" per day (one "gou" is a measure of 180 ml of Japanese sake, contains almost 20g of ethanol) | Age,marital status,occupation,per capita income, unemployment(%) | OR=0.96 (95%CI: 0.87-1.06) for 4th vs 5th (highest). OR=0.99 (95%CI: 0.89-1.10) for 3rd vs 5th (highest). OR=1.03 (95%CI: 0.92-1.14) for 2nd vs 5th (highest). OR=0.99 (95%CI: 0.89-1.10) for 1st (lowest) vs 5th (highest). |
| | | 21076 (women) | | | | | | | OR=0.96 (95%CI: 0.78-1.17) for 4th vs 5th (highest). OR=1.04 (95%CI: 0.85-1.27) for 3rd vs 5th (highest). OR=1.06 (95%CI: 0.86-1.29) for 2nd vs 5th (highest). OR=1.28 (95%CI: 1.04-1.56) for 1st (lowest) vs 5th (highest). |
| Hasegawa T et al. (2013) Industrial Health. 51:490-500. | Hamamatsu Survey on Mental Health and Measures against Suicide in2008 | 298 (men) | 15-79 | Cross sectional | — | Annual family income in yen : ①<=1999999, ② 2000000-3999999, ③4000000-6999999, ④ >=7000000 | Problem drinking (The CAGE questionnaire: we defined problem drinking as alcohol dependence and alcohol abuse/harmful drinking proven to be detected by CAGE questionnaire under selfadministered questionnaire) | Age, marital status, depressive symptoms, annual family income, employment types, occupational types, company size, working hours | OR=5.29 (95%CI: 0.64-43.82) for 1 (lowest) vs 4 (highest) OR=1.60 (95%CI: 0.55-4.66) for 2 vs 4 (highest) OR=2.97(95%CI: 1.26-7.01) for 3 vs 4 (highest) |
| | | 285 (woman) | | | | | | | OR=0.43 (95%CI: 0.01-16.5) for 1 (lowest) vs 4 (highest) OR=4.86 (95%CI:0.73-35.6) for 2 vs 4 (highest) OR=0.75 (95%CI: 0.09-6.01) for 3 vs 4 (highest) |

Table3. Occupation and health outcome

| Author, published year | Studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|------------------|---------------|--------------|--------------------|--|---|---------------------|--------------------------------------|---|
| All cause mortality | | | | | | | | | |
| Honjo K et al. (2014) Int J. Behav Med. 21(5):737-49 | JACC study | 24460 (men) | 40-65 | Prospective cohort | 16 years (mean follow up period: 14.7 years) | Occupation (office worker, manual worker, other jobs, unemployed/homemakers, missing) | All cause mortality | Age, marital status, education level | Logistic estimate 0.171 for manual worker vs office worker (p<0.05). Logistic estimate 0.396 for other jobs vs office worker (p<0.05). Logistic estimate 0.633 for unemployment/homemakers vs office worker (p<0.05). |
| | | 32649 (women) | | | | | | | Logistic estimate -0.025 for manual worker vs office worker. Logistic estimate -0.089 for other jobs vs office worker. Logistic estimate 0.267 for unemployment/homemakers vs office worker (p<0.05). |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|--|--|------------------------|---|---|--|--------------------------|--|--|
| Zhu S et al. (2000) Environmental Health and Preventive Medicine. 5:66-74. | JACC study (as part of JACC study + subjects aged 29-39, 77) | 1290 (men) 1479 (women) | 29-77 | Prospective cohort | 4.5 years | Job (yes: employed permanently / self-employed / other, no: part-time job / housewife / jobless) | All cause mortality | Age, obesity, previous or current illness, positive attitude to life, living with spouse, drinking habit, smoking habit | HR=1.95 (95%CI: 1.01-3.77) for not having job vs having job. HR=3.61 (95%CI: 0.78-16.36) for not having job vs having job. |
| Fujino Y et al. (2007) Asian Pacific J Cancer Prev. 8:97-104. | JACC study | 46465 (men) 64327 (women) | 40-79 | Prospective cohort | Mean follow-up period: 12.5 years Type of jobs (office work, manual work, others) Mean follow-up period: 12.9 years | | All cause mortality | Age, area | HR=1.03 (95%CI: 0.95-1.11) for manual work vs office work. HR=1.04 (95%CI: 0.93-1.18) for others vs office work. HR=0.86 (95%CI: 0.74-1.00) for manual work vs office work. HR=0.97 (95%CI: 0.83-1.15) for others vs office work. |
| Fujino Y et al. (2005) J Occup Health. 47(6):510-517. | JACC study | 15434 (men) 10511 (women) | 40-59 | Prospective cohort | 10 years | Employment Status (employed, self-employed) | All cause mortality | Age, smoking, alcohol consumption, education level, perceived stress, past medical history, BMI, job type | RR=1.01 (95%CI: 0.86-1.18) for self-employed vs employed. RR=1.22 (95%CI: 0.90-1.64) for self-employed vs employed. |
| | | | 35 years old and older | | | | | | All ages OR=1.12(95%CI: 0.77-1.63) for blue-collar vs white-collar. OR=1.18 (95%CI: 0.83-1.69) for farmer and forestry workers vs white-collar. OR=1.59 (95%CI: 1.08-2.34) for unemployed vs white-collar. |
| | | 4301 (men) | 35-59 | | | | | | 59 and younger OR=1.04 (95%CI: 0.57-1.88) for blue-collar vs white-collar. OR=1.52 (95%CI: 0.85-2.73) for farmer and forestry workers vs white-collar. OR=1.39 (95%CI: 0.32-6.04) for unemployed vs white-collar. |
| | | | 60- | | | | | | OR=1.16 (95%CI: 0.71-1.89) for blue-collar vs white-collar. OR=1.06 (95%CI: 0.68-1.68) for farmer and forestry workers vs white-collar. OR=1.51 (95%CI: 0.96-2.38) for unemployed vs white-collar. |
| Hirokawa K et al. (2006) European J Epidemiol. 21:641-651 | Jichi Medical School (JMS) cohort study | | 35 years old and older | Prospective cohort | Mean follow-up period: 9.17 years | Employment Statuses (white-collar, blue-collar, farmer and forestry workers, unemployed) | All cause mortality | Age, educational level, employment status. | All ages OR=0.65 (95%CI: 0.37-1.12) for blue-collar vs white-collar. OR=0.51 (95%CI: 0.33-0.80) for farmer and forestry workers vs white-collar. OR=0.76 (95%CI: 0.452-1.11) for unemployed vs white-collar. |
| | | 6780 (women) | 35-59 | | | | | | 59 and younger OR=0.71 (95%CI: 0.33-1.51) for blue-collar vs white-collar. OR=0.43 (95%CI: 0.20-0.96) for farmer and forestry workers vs white-collar. OR=0.75 (95%CI: 0.39-1.41) for unemployed vs white-collar. |
| | | | 60- | | | | | | 60 and elder OR=0.60 (95%CI: 0.27-1.35) for blue-collar vs white-collar. OR=0.61 (95%CI: 0.34-1.08) for farmer and forestry workers vs white-collar. OR=0.83 (95%CI: 0.50-1.37) for unemployed vs white-collar. |
| Murata C et al. (2005) J Epidemiol. 15:78-84. | | 541 (men) 694 (women) 295 (men) 464 (women) | 65-74 75+ | Prospective cohort (Residents of Nagano prefecture) | 4 years (100 person-years) | Job: "Are you engaged in any jobs?"; yes, no (job=include homework) | All cause mortality | Age, self-rated health, diagnosed illness, annual income, home ownership | HR=0.82 (95%CI: 0.45-1.50) for having job vs not having a job. HR=1.25 (95%CI: 0.64-2.42) for having job vs not having a job. HR=0.60 (95%CI: 0.40-0.90) for having job vs not having a job. HR=0.67 (95%CI: 0.45-0.99) for having job vs not having a job. |
| Sato T et al. (2008) Archives of Gerontology and Geriatrics. 47:327-339. | Residential census data of a rural town in Hokkaido | 285 (men) 352 (women) | 68-82 | Prospective cohort | 12 years | Active lifestyle (job:yes,no) | All cause mortality | Age, ADL, IADL, incontinence, cerebral palsy, self-rated health, depression, exercise, and health practices | HR=0.87 (95%CI: 0.58-1.29) of mortality for having job vs not having job. HR=0.54 (95%CI: 0.32-0.89) of mortality for having job vs not having job. |
| Cancer mortality | | | | | | | | | |
| Hirokawa K et al. (2006) European J Epidemiol. 21:641-651 | Jichi Medical School (JMS) Cohort Study | 4301 (men) 6780 (women) | 35- | Prospective cohort | Mean follow-up period: 9.17 years | Employment Statuses (white-collar, blue-collar, farmer and forestry workers, unemployed) | All cancer mortality | Age, educational level, employment status | OR=1.38 (95%CI: 0.78-2.47) for blue-collar vs white-collar. OR=1.29 (95%CI: 0.74-2.26) for farmer and forestry workers vs white-collar. OR=1.26 (95%CI: 0.67-2.38) for unemployed vs white-collar. OR=0.58 (95%CI: 0.23-1.44) for blue-collar vs white-collar. OR=0.49 (95%CI: 0.22-1.07) for farmer and forestry workers vs white-collar. OR=0.72 (95%CI: 0.38-1.35) for unemployed vs white-collar. |
| Kuwahara A et al. (2010). Gastric Cancer. 13:222-230. | JPHC Cohort study (among gastric cancer patients) | 518 (men) 201 (women) | 40-59 | Prospective cohort | 16 years | Occupation (professionals or office workers, sales clerks or others, farmers, manual laborers, unemployed) | Gastric cancer mortality | Age at diagnosis | HR=1.70 (95%CI: 1.00-2.89) for sales clerks vs office workers. HR=0.94 (95%CI: 0.54-1.64) for farmers vs office workers. HR=1.61 (95%CI: 0.98-2.65) for manual laborers vs office workers. HR=2.66 (95%CI: 1.26-5.59) for unemployed vs office workers. HR=1.35 (95%CI: 0.45-4.10) for sales clerks vs office workers. HR=0.97 (95%CI: 0.32-2.94) for farmers vs office workers. HR=2.17 (95%CI: 0.76-6.21) for manual laborers vs office workers. HR=2.09 (95%CI: 0.75-5.84) for unemployed vs office workers. |
| Honjo K et al. (2014) Int J Behav Med. 21(5):737-49 | JACC Study | 24460 (men) 32649 (women) | 40-65 | Prospective cohort | 16 years (mean follow up period: 14.7 years) | Occupation (office worker, manual worker, other jobs, unemployed/homemakers, missing) | All cancer mortality | Age, marital status, population size, proportion of aged population, sampling methods, proportion of college graduates (%) | Logistic estimate 0.098 for manual worker vs office worker. Logistic estimate 0.193 for other jobs vs office worker. Logistic estimate 0.151 for unemployment/homemakers vs office worker. Logistic estimate 0.114 for missing vs office worker. Logistic estimate 0.072 for manual worker vs office worker. Logistic estimate 0.085 for other jobs vs office worker. Logistic estimate 0.192 for unemployment/homemakers vs office worker. Logistic estimate 0.019 for missing vs office worker. |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk | | | | | | | | |
|---|---|---|---------------|--------------------|-----------------------------------|--|---|---|--|--|-------|--------------------|-----------------------------------|---|-----------------------|-----------|--|
| Fujino Y et al. (2007) Asian Pacific J Cancer Prev. 8:97-104. | JACC study | 46465 (men) | 40-79 | Prospective cohort | Mean follow-up period: 12.5 years | Type of jobs (office work, manual work, others) | All cancer mortality | Age, area | HR=1.00 (95%CI: 0.89-1.13) for manual work vs office work. HR=0.93 (95%CI: 0.77-1.13) for others vs office work. | | | | | | | | |
| | | 64327 (women) | | | | | | | HR=0.83 (95%CI: 0.67-1.04) for manual work vs office work. HR=0.82 (95%CI: 0.64-1.05) for others vs office work. | | | | | | | | |
| | | 46465 (men) | | | | | | | HR=0.87 (95%CI: 0.49-1.56) for manual work vs office work. HR=0.87 (95%CI: 0.33-2.29) for others vs office work. | | | | | | | | |
| | | 64327 (women) | | | | | | | HR=0.94 (95%CI: 0.09-8.96) for manual work vs office work. HR=2.91 (95%CI: 0.29-28.6) for others vs office work. | | | | | | | | |
| | | 46465 (men) | | | | | | | HR=1.49 (95%CI: 1.10-2.01) for manual work vs office work. HR=1.09 (95%CI: 0.69-1.73) for others vs office work. | | | | | | | | |
| | | 64327 (women) | | | | | | | HR=1.09 (95%CI: 0.59-2.00) for manual work vs office work. HR=1.02 (95%CI: 0.52-2.00) for others vs office work. | | | | | | | | |
| | | 46465 (men) | | | | | | | HR=0.59 (95%CI: 0.38-0.92) for manual work vs office work. HR=0.50 (95%CI: 0.21-1.19) for others vs office work. | | | | | | | | |
| | | 64327 (women) | | | | | | | HR=0.57 (95%CI: 0.30-1.07) for manual work vs office work. HR=0.48 (95%CI: 0.22-1.02) for others vs office work. | | | | | | | | |
| | | 46465 (men) | | | | | | | HR=0.96 (95%CI: 0.56-1.63) for manual work vs office work. HR=0.87 (95%CI: 0.35-2.16) for others vs office work. | | | | | | | | |
| | | 64327 (women) | | | | | | | HR=0.82 (95%CI: 0.30-2.24) for manual work vs office work. HR=0.87 (95%CI: 0.27-2.84) for others vs office work. | | | | | | | | |
| | | 46465 (men) | | | | | | | HR=0.98 (95%CI: 0.67-1.41) for manual work vs office work. HR=1.33 (95%CI: 0.76-2.35) for others vs office work. | | | | | | | | |
| | | 64327 (women) | | | | | | | HR=0.96 (95%CI: 0.43-2.10) for manual work vs office work. HR=0.75 (95%CI: 0.30-1.85) for others vs office work. | | | | | | | | |
| | | 46465 (men) | | | | | | | HR=0.56 (95%CI: 0.23-1.37) for manual work vs office work. HR=0.31 (95%CI: 0.05-1.72) for others vs office work. | | | | | | | | |
| | | 64327 (women) | | | | | | | HR=1.37 (95%CI: 0.39-4.81) for manual work vs office work. HR=1.94 (95%CI: 0.51-7.39) for others vs office work. | | | | | | | | |
| | | 46465 (men) | | | | | | | HR=1.01 (95%CI: 0.62-1.64) for manual work vs office work. HR=0.74 (95%CI: 0.33-1.63) for others vs office work. | | | | | | | | |
| | | 64327 (women) | | | | | | | HR=0.70 (95%CI: 0.34-1.46) for manual work vs office work. HR=0.79 (95%CI: 0.35-1.76) for manual work vs office work. | | | | | | | | |
| | | Fujino Y et al. (2007) Asian Pacific J Cancer Prev. 8:97-104. | | | | | | | JACC study | 46465 (men) | 40-79 | Prospective cohort | Mean follow-up period: 12.5 years | Type of jobs (office work, manual work, others) | Lung cancer mortality | Age, area | HR=1.07 (95%CI: 0.83-1.36) for manual work vs office work. HR=1.18 (95%CI: 0.82-1.70) for others vs office work. |
| | | | | | | | | | | 64327 (women) | | | | | | | HR=0.58 (95%CI: 0.32-1.06) for manual work vs office work. HR=0.72 (95%CI: 0.36-1.40) for others vs office work. |
| | | | | | | | | | | 46465 (men) | | | | | | | HR=0.97 (95%CI: 0.51-1.85) for manual work vs office work. HR=1.00 (95%CI: 0.38-2.65) for others vs office work. |
| | | | | | | | | | | 64327 (women) | | | | | | | HR=0.40 (95%CI: 0.18-0.89) for manual work vs office work. HR=NA for others vs office work. |
| 46465 (men) | HR=NA for manual work vs office work. HR=NA for others vs office work. | | | | | | | | | | | | | | | | |
| 64327 (women) | HR=0.77 (95%CI: 0.36-1.68) for manual work vs office work. HR=0.52 (95%CI: 0.15-1.86) for others vs office work. | | | | | | | | | | | | | | | | |
| 46465 (men) | HR=NA for manual work vs office work. HR=NA for others vs office work. | | | | | | | | | | | | | | | | |
| 64327 (women) | HR=0.70 (95%CI: 0.34-1.42) for manual work vs office work. HR=1.05 (95%CI: 0.35-3.12) for others vs office work. | | | | | | | | | | | | | | | | |
| 46465 (men) | HR=0.84 (95%CI: 0.22-3.18) for manual work vs office work. HR=2.26 (95%CI: 0.57-9.02) for others vs office work. | | | | | | | | | | | | | | | | |
| 64327 (women) | HR=0.41 (95%CI: 0.19-0.92) for manual work vs office work. HR=0.46 (95%CI: 0.16-1.31) for others vs office work. | | | | | | | | | | | | | | | | |
| 46465 (men) | HR=2.52 (95%CI: 0.31-20.5) for manual work vs office work. HR=3.19 (95%CI: 0.34-29.7) for others vs office work. | | | | | | | | | | | | | | | | |
| 64327 (women) | HR=0.64 (95%CI: 0.26-1.59) for manual work vs office work. HR=0.78 (95%CI: 0.17-3.48) for others vs office work. | | | | | | | | | | | | | | | | |
| 46465 (men) | HR=NA for manual work vs office work. HR=NA for others vs office work. | | | | | | | | | | | | | | | | |
| 64327 (women) | HR=0.76 (95%CI: 0.33-1.76) for manual work vs office work. HR=0.27 (95%CI: 0.03-2.42) for others vs office work. | | | | | | | | | | | | | | | | |
| 46465 (men) | HR=NA for manual work vs office work. HR=NA for others vs office work. | | | | | | | | | | | | | | | | |
| 64327 (women) | HR=NA for manual work vs office work. HR=NA for others vs office work. | | | | | | | | | | | | | | | | |
| Cancer morbidity | | | | | | | | | | | | | | | | | |
| CVD mortality | | | | | | | | | | | | | | | | | |
| Honjo K et al. (2014) Int J. Behav Med. 21(5):737-49 | JACC study | | 24460 (men) | 40-65 | Prospective cohort | 16 years (mean follow up period: 14.7 years) | Occupation (office worker, manual worker, other jobs, unemployed/homemakers, missing) | CVD mortality | | Age, marital status, population size, proportion of aged population, sampling methods, proportion of college graduates (%) | | | | | | | Logistic estimate 0.105 for manual worker vs office worker. Logistic estimate 0.327 for other jobs vs office worker. Logistic estimate 0.493 for unemployment/homemakers vs office worker (p<0.05). |
| | | | 32649 (womwn) | | | | | | | | | | | | | | Logistic estimate -0.491 for Manual worker vs Office worker (p<0.05). Logistic estimate -0.561 for Other jobs vs Office worker. Logistic estimate -0.028 for Unemployment/homemakers vs Office worker. |
| Fujino Y et al. (2007) Asian Pacific J Cancer Prev. 8:97-104. | JACC study | 46465 (men) | 40-79 | Prospective cohort | Mean follow-up period: 12.5 years | Type of jobs (office work, manual work, others) | Ischemic heart diseases mortality | Age, area | HR=0.80 (95%CI: 0.59-1.06) for manual work vs office work. HR=0.80 (95%CI: 0.50-1.28) for others vs office work. | | | | | | | | |
| | | 64327 (women) | | | | | | | HR=0.82 (95%CI: 0.40-1.64) for manual work vs office work. HR=0.85 (95%CI: 0.39-1.83) for others vs office work. | | | | | | | | |
| | | 46465 (men) | | | | | | | HR=1.26 (95%CI: 0.99-1.60) for manual work vs office work. HR=1.12 (95%CI: 0.79-1.60) for others vs office work. | | | | | | | | |
| | | 64327 (women) | | | | | | | HR=0.79 (95%CI: 0.54-1.16) for manual work vs office work. HR=0.99 (95%CI: 0.65-1.50) for others vs office work. | | | | | | | | |
| Hirokawa K et al. (2006) European J Epidemiol. 21:641-651 | Jichi Medical School (JMS) Cohort Study | 4301 (men) 6780 (women) | 35- | Prospective cohort | Mean follow-up period: 9.17 years | Employment Statues (white-collar, blue-collar, farmer and forestry wokers, unemployed) | CVD mortality | Age, educational level, employment status | OR=0.74 (95%CI: 0.34-1.60) for blue-collar vs white-collar. OR=0.37 (95%CI: 0.16-0.82) for farmer and forestry wokers vs white-collar. OR=1.27 (95%CI: 0.61-2.66) for unemployed vs white-collar. OR=0.60 (95%CI: 0.18-1.96) for blue-collar vs white-collar. OR=0.60 (95%CI: 0.25-1.43) for farmer and forestry wokers vs white-collar. OR=0.72 (95%CI: 0.33-1.54) for unemployed vs white-collar. | | | | | | | | |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|--|---|------------------------------------|--|-----------------|--|---|--|--|
| CVD morbidity | | | | | | | | | |
| Honjo K et al. (2014). Stroke. 45:2592-2598. | JPHC Cohort study | 14742 (women) | 40-59 | Prospective cohort | 20 years | Occupation (professional/ manager, Office work, service/ sales, Manual job) | Stroke incidence | Age, marital status, geographical area | HR=1.53 (95%CI: 0.93-2.53) for office work vs professional/ manager. HR=1.97 (95%CI: 1.26-3.07) for service/ sales vs professional/ manager. HR=1.65 (95%CI: 1.07-2.56) for manual job vs professional/ manager. |
| | | 15434 (men) | | | | | Circulatory system diseases mortality (ICD10: I00-99) | | RR=0.85(95%CI: 0.62-1.18) for self-employed vs employed. RR=0.52(95%CI: 0.27-1.02) for self-employed vs employed. |
| Fujino Y et al. (2005) J Occup Health. 47(6):510-517. | JACC study | 15434 (men) 10511 (women) | 40-59 | Prospective cohort | 10 years | Employment status (employed, self-employed) | Cerebrovascular diseases mortality (ICD10: I60-69) | Age, smoking, alcohol consumption education level, perceived stress, past medical history BMI, job type | RR=0.58(95%CI: 0.35-0.97) for self-employed vs employed. RR=0.46(95%CI: 0.19-1.12) for self-employed vs employed. |
| | | 15434 (men) 10511 (women) | | | | | Ischemic heart diseases mortality (ICD10: I20-25) | | RR=1.28(95%CI: 0.68-2.40) for self-employed vs employed. RR=0.18(95%CI: 0.02-1.81) for self-employed vs employed. |
| Self-rated Health | | | | | | | | | |
| Wang Net al. (2005) J Epidemiol. 5:155-162. | the Komo-Ise study | 2542 (men) 2634 (women) | 47-77 | Prospective cohort | 7 years | Employment | Self-reported fair or poor health | Age, area | OR=1.84 (95%CI: 1.58-2.15) for unemployment vs employment. OR=1.49 (95%CI: 1.31-1.70) for unemployment vs employment. |
| Nishi N et al. (2004) Soc Sci Med. 58:1159-1170. | — | 968 (men) 393 (women) | 35-64 | Cross sectional (Civil servants working in Takarazuka City) | — | Employment grade (higher-level nonmanual, lower-level nonmanual, manual) | Poor self-rated health (0—excellent, very good and good, 1—fair and poor). | Age | OR=2.20 (95%CI: 1.52-3.17) for lower-level nonmanual vs higher-level nonmanual. OR=3.58(95%CI: 2.26-5.67) for manual vs higher-level nonmanual. (p for trend <0.001) OR=1.38 (95%CI: 0.80-2.38) for lower-level nonmanual vs higher-level nonmanual. OR=1.94 (95%CI: 1.09-3.47) for manual vs higher-level nonmanual. (p for trend 0.02) |
| Martikainen P. (2004) Soc Sci Med. 59:1287-1295. | — | 1796 (men) 706 (women) 821 (men) 287 (women) | 40-60 | Cross sectional (Employees of a prefecture on the west coast of Japan) Cross sectional (Employees of a prefecture on Takarazuka city) | — | Employment grade (non-manual: administrative/managerial,professional,clerical manual inequality index for non-manual grades) | Poor self-rated health (SF-36) | Age | OR=1.63 (95%CI: 1.10-2.42) for profession vs administrative/managerial. OR=2.56 (95%CI: 1.68-3.89) for clerical vs administrative/managerial. OR=1.57 (95%CI: 0.97-2.53) for manual vs administrative/managerial. OR=1.56 (95%CI: 1.30-1.89) for inequality index for non-manual grades vs administrative/managerial. OR=0.59 (95%CI: 0.11-3.14) for administrative/managerial vs profession. OR=1.04 (95%CI: 0.73-1.48) for clerical vs profession. OR=0.74 (95%CI: 0.38-1.45) for manual vs profession. OR=1.08 (95%CI: 0.77-1.51) for inequality index for non-manual grades vs profession. OR=1.83 (95%CI: 1.11-3.04) for profession vs administrative/managerial. OR=2.26 (95%CI: 1.40-3.65) for clerical vs administrative/managerial. OR=2.28 (95%CI: 1.43-3.63) for manual vs administrative/managerial. OR=1.42 (95%CI: 1.12-1.80) for inequality index for non-manual grades vs administrative/managerial. OR—not estimated for administrative/managerial vs profession. OR=1.01 (95%CI: 0.51-2.01) for clerical vs profession. OR=2.15 (95%CI: 1.05-4.38) for manual vs profession. OR=1.28 (95%CI: 0.65-2.54) for inequality index for non-manual grades vs profession. |
| Psychological distress/depression | | | | | | | | | |
| Fukuda Y et al. (2005) BMC Public Health | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 20030 (men) 21076 (women) | 25-59 | Cross sectional | — | Occupation (profession, manager, clerk, sales work, service work, agriculture, transport, labour, others) | Stress ("Do you have any stress or worries in your daily life?" -"yes" were defined as being stressed.) | Age,marital status,occupation,per capita income, unemployment(%) | OR=1.03 (95%CI:0.92-1.16) for manager vs pfrfession. OR=0.99 (95%CI:0.88-1.11) for clerk vs pfrfession. OR=1.01 (95%CI:0.90-1.13) for sales work vs pfrfession. OR=1.07 (95%CI:0.95-1.21) for service work vs pfrfession. OR=0.73 (95%CI:0.61-0.87) for agriculture vs pfrfession. OR=0.92 (95%CI: 0.80-1.06)for Trasport vs pfrfession. OR=0.89 (95%CI:0.81-0.98) for labour vs pfrfession. OR=1.03 (95%CI:0.92-1.15) for others vs pfrfession. OR=1.32 (95%CI:1.18-1.47) for pfrfession vs housework. OR=1.20 (95%CI:1.09-1.33) for clerk vs housework. OR=1.19 (95%CI:1.06-1.34) for sales work vs housework. OR=1.14 (95%CI:1.03-1.28) for service work vs housework. OR=0.84 (95%CI:0.70-1.02) for agriculture vs housework. OR=1.06 (95%CI:0.95-1.18) for labour vs housework. OR=1.06 (95%CI:0.96-1.17) for others vs housework. |
| Fushimi M et al. (2013) Community Ment Health J. 49:236-242. | Northern Japan Occupational Health Promotion Centers Collaboration Study for Mental Health (NOCS-MH) | 1069 (men) 1151 (women) | NA | Cross sectional | — | Job category (clerical/administrative, professional, sales/service, technical, others(on-site workers etc.)) | Depressive Symptoms (CES-D ≥ 16) | Age, education, employee type, job category, working hours per day, sleep duration, smoking behavior, alcohol consumption | OR=1.02 (95%CI: 0.67-1.55) for professional vs clerical/administrative. OR=1.41 (95%CI: 0.87-2.27) for sales/service vs clerical/administrative. OR=1.32 (95%CI: 0.87-2.00) for technical vs clerical/administrative. OR=1.35 (95%CI: 0.82-2.23) for others vs clerical/administrative. OR=1.65 (95%CI: 1.07-2.56) for professional vs clerical/administrative. OR=0.97 (95%CI: 0.60-1.58) for sales/service vs clerical/administrative. OR=1.33 (95%CI: 0.83-2.11) for technical vs clerical/administrative. OR=0.67 (95%CI: 0.39-1.16) for others vs clerical/administrative. OR=0.88 (95%CI: 0.61-1.28) for managerial class vs non-managerial class. OR=0.91 (95%CI: 0.55-1.52) for managerial class vs non-managerial class. |
| Miyake Y et al.(2012). BMC Psychiatry. 12:117. | Kyushu Okinawa Maternal and Child Health Study (KOMCHS) | 1741 (women) | NA (age, years, mean±SD: 31.2±4.4) | Cross sectional | — | Vocation (unemployed, professional or technical, clerical or related occupation, sales, service, production, others) | Antenatal depression (CES-D ≥ 16) | Age, gestation, region of residence, family structure, history of depression, family history of depression, smoking, and secondhand smoke exposure at home and at work | OR=0.60 (95%CI: 0.42-0.84) for professional or technical vs unemployed. OR=0.61 (95%CI: 0.42-0.87) for clerical or related occupation vs unemployed. OR=0.69 (95%CI: 0.38-1.23) for sales vs unemployed. OR=0.64 (95%CI: 0.37-1.08) for service vs unemployed. OR=0.92 (95%CI: 0.44-1.82) for production vs unemployed. OR=0.45 (95%CI: 0.13-1.22) for others vs unemployed. OR=0.62 (95%CI: 0.47-0.82) for yes vs no. |
| | | | | | | Employment (yes, no) | | | |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|--|--|--|--|-----------------|---|--|--|---|
| Inoue A et al. (2010) J Occupa Health. 52:227-240. | The Comprehensive Survey of the Living Conditions of People on Health and Welfare | 9461 (men) 7717 (women) | 15-83 | Cross sectional | — | Occupation (professionals and technicians, managers, clerks, sales and service workers, production workers, others) | Psychological Distress (K6 ≥5) | Age, marital status, household income, employment contract, company size | OR=1.03 (95%CI: 0.90-1.17) for professionals and technicians vs sales and service workers. OR=0.93 (95%CI: 0.76-1.14) for managers vs sales and service workers. OR=1.16 (95%CI: 0.97-1.39) for clerks vs sales and service workers. OR=1.02 (95%CI: 0.89-1.17) for production workers vs sales and service workers. OR=1.14 (95%CI: 0.83-1.57) for others vs sales and service workers. OR=1.12 (95%CI: 0.97-1.29) for professionals and technicians vs sales and service workers. OR=0.91 (95%CI: 0.54-1.51) for managers vs sales and service workers. OR=0.98 (95%CI: 0.86-1.13) for clerks vs sales and service workers. OR=1.09 (95%CI: 0.93-1.27) for production workers vs sales and service workers. OR=0.95 (95%CI: 0.70-1.28) for others vs sales and service workers. |
| Smoking | | | | | | | | | |
| Fukuda Y et al. (2005) BMC Public Health | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 20030 (men) 21076 (women) | 25-59 | Cross sectional | — | Occupation (profession, manager, clerk, sales work, service work, agriculture, transport, labour, others) | Current smoker:"smoke every day"or " smoke on occasion but not every day. | Age,marital status,occupation,per capita income, unemployment(%) | OR=1.14 (95%CI: 1.01-1.28) for manager vs profession. OR=0.94 (95%CI: 0.84-1.06) for clerk vs profession. OR=1.31 (95%CI: 1.17-1.47) for sales work vs profession. OR=1.26 (95%CI: 1.12-1.42) for service vs profession. OR=1.16 (95%CI: 0.97-1.39) for agriculture vs profession. OR=1.61 (95%CI: 1.39-1.87) for transport vs profession. OR=1.49 (95%CI: 1.36-1.63) for labour vs profession. OR=1.08 (95%CI: 0.97-1.20) for others vs profession. OR=1.08 (95%CI: 0.92-1.25) for profession vs housework. OR=0.97 (95%CI: 0.84-1.12) for clerk vs housework. OR=1.57 (95%CI: 1.35-1.82) for sales work vs housework. OR=1.58 (95%CI: 1.37-1.81) for service vs housework. OR=0.70 (95%CI: 0.52-0.96) for agriculture vs housework. OR=1.10 (95%CI: 0.94-1.28) for labour vs housework. OR=1.30 (95%CI: 1.13-1.48) for others vs housework. |
| Fukuda Y et al. (2005) Ann Epidemiol: 15:365-372 | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 18-54 18-24 25-39 40-54 18-54 18-24 25-39 40-54 | 18-54 18-24 25-39 40-54 18-54 18-24 25-39 40-54 | Cross sectional | — | Employment status (unemployed, employed) | Current smoker:"smoke every day"or " smoke on occasion but not every day. | Age, residence area, marital status,income, other smoker | Total OR=2.35 (95%CI: 2.06-2.67) for unemployment vs employment. 18-24 years old OR=1.71 (95%CI: 1.34-2.20) for unemployment vs employment. 25-39 years old OR=2.35 (95%CI: 2.06-2.67) for unemployment vs employment. 40-54 years old OR=1.71 (95%CI: 1.34-2.20) for unemployment vs employment. Total OR=2.35 (95%CI: 2.06-2.67) for unemployment vs employment. 18-24 years old OR=1.71 (95%CI: 1.34-2.20) for unemployment vs employment. 25-39 years old OR=2.35 (95%CI: 2.06-2.67) for unemployment vs employment. 40-54 years old OR=1.71 (95%CI: 1.34-2.20) for unemployment vs employment. |
| Nishi N et al. (2004) Soc Sci Med. 58:1159-1170. | — | 968 (men) 393 (women) | 35-64 | Cross sectional (Civil servants working in Takarazuka City) | — | Employment grade (higher-level nonmanual, lower-level nonmanual, manual) | Smoking (0—non-and ex-smoker, 1—current smoker) | Age | OR=0.81 (95%CI: 0.58-1.13) for lower-level nonmanual vs higher-level nonmanual. OR=1.41 (95%CI: 0.76-2.63) for manual vs higher-level nonmanual. (p for trend 0.94) OR=0.66 (95%CI: 0.28-1.58) for lower-level nonmanual vs higher-level nonmanual. OR=0.70 (95%CI: 0.26-1.89) for manual vs higher-level nonmanual . (p for trend 0.49) |
| Hu L. et al. (2007) J Occup Health. 49(6):443-52. | Annual survey on health, lifestyle habits and work stress among civil servants | 707 (men) 598 (women) | 20-64 | Cross sectional | — | Grade of employment (grade1 [highest grade]: chief or irector of bureau / department, deputy head of breau / department, professional equivalents; grade2 [middle grade]: head of section, subsection chief, professional equivalents; grade3 [lowest grade]: clerical staff) | Smoking (current smoker) | Unadjusted | OR=1.00 (95%CI: 0.62-1.62) for grade2 vs grade1. OR=1.13 (95%CI: 0.71-1.81) for grade3 vs grade1. OR=0.72 (95%CI: 0.31-2.93) for grade3 vs grade1. |
| Alcohol intake | | | | | | | | | |
| Fukuda Y et al. (2005) BMC Public Health | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 20030 (men) 21076 (women) | 25-59 | Cross sectional | — | Occupation (profession, manager, clerk, sales work, service work, agriculture, transport, labour, others) | Excess alcohol consumption more than 2.0 "gou" per day (one "gou" is a measure of 180 ml of Japanese sake, contains almost 20g of ethanol) | Age,marital status,occupation,per capita income, unemployment(%) | OR=1.07 (95%CI: 0.93-1.22) for manager vs profession. OR=0.97 (95%CI: 0.85-1.11) for clerk vs profession. OR=1.18 (95%CI: 1.04-1.34) for sales work vs profession. OR=1.13 (95%CI: 0.98-1.29) for service vs profession. OR=1.20 (95%CI: 0.99-1.46) for agriculture vs profession. OR=1.29 (95%CI: 1.10-1.51) for transport vs profession. OR=1.26 (95%CI: 1.14-1.39) for labour vs profession. OR=0.91 (95%CI: 0.80-1.03) for others vs profession. OR=1.34 (95%CI:1.06-1.70) for profession vs housework. OR=1.46 (95%CI: 1.19-1.80) for clerk vs housework. OR=1.79 (95%CI: 1.42-2.25) for sales work vs housework. OR=1.91 (95%CI: 1.55-2.36) for service vs housework. OR=1.21 (95%CI: 0.79-1.86) for agriculture vs housework. OR=1.07 (95%CI: 0.83-1.38) for labour vs housework. OR=1.34 (95%CI: 1.08-1.66) for others vs housework. |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|---|---|-------------|--------------|--|-----------------|---|---|---|---|
| Nishi N et al. (2004) Soc Sci Med. 58:1159-1170. | — | 968 (men) | 35-64 | Cross sectional (Civil servants working in Takarazuka City) | — | Employment grade (higher-level nonmanual, lower-level nonmanual, manual) | Alcohol drinking (0—three times a week or less, 1—almost daily or daily) | Age | OR=0.76 (95%CI: 0.54-1.06) for lower-level nonmanual vs higher-level nonmanual. OR=0.89 (95%CI: 0.49-1.62) for manual vs higher-level nonmanual. (p for trend 0.28) |
| | | 393 (women) | | | | | | | OR=0.50 (95%CI: 0.26-0.95) for lower-level nonmanual vs higher-level nonmanual. OR=0.27 (95%CI: 0.11-0.65) for manual vs higher-level nonmanual. (p for trend 0.02) |
| Hasegawa T et al. (2013) Industrial Health. 51:490-500. | Hamamatsu Survey on Mental Health and Measures against Suicide in2008 | 298 (men) | 15-79 | Cross sectional | — | Occupational type (specialist/technical, administrative/managerial, clerical, sales, service, production process and related, others) | Problem drinking (The CAGE questionnaire; we defined problem drinking as alcohol dependence and alcohol abuse/harmful drinking proven to be detected by CAGE questionnaire under self-administered questionnaire) | Age, marital status, depressive symptoms, annual family income, employment types, occupational types, company size, working hours | OR=0.82 (95%CI: 0.28-2.41) for administrative/managerial vs specialist/technical. OR=1.90 (95%CI: 0.54-6.73) for clerical vs specialist/technical. OR=0.49 (95%CI: 0.11-2.07) for sales vs specialist/technical. OR=1.64 (95%CI: 0.54-4.96) for service vs specialist/technical. OR=0.30 (95%CI: 0.10-0.88) for production process and related vs specialist/technical. OR=0.61 (95%CI: 0.18-2.13) for others vs specialist/technical. |
| | | 285 (woman) | | | | | | | OR=139.37 (95%CI: 1.47-13242.89) for administrative/managerial vs specialist/technical. OR=3.70 (95%CI: 0.33-41.54) for clerical vs specialist/technical. OR=18.44 (95%CI: 0.77-442.79) for sales vs specialist/technical. OR=15.11 (95%CI: 1.02-222.94) for service vs specialist/technical. OR=NA for production process and related vs specialist/technical. OR=3.69 (95%CI: 0.14-96.96) for others vs specialist/technical. |

Table4. Type of Employment and health outcome

| Author, published year | Studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|---|------------------|---------------|--------------|--------------------|--|--|-----------------------------|--|---|
| All cause mortality | | | | | | | | | |
| Honjo K et al. (2015) J Epidemiol Community Health; 69:1012-1017. | JACC study | 16692 (women) | 40-59 | Prospective cohort | 20 years (mean follow up period; 17.7 years) | Employment status (full-time, part-time, self-employed) | All cause mortality | Age, area, education level, disease history at baseline, marital status, having children | HR=1.48 (95%CI: 1.25-1.75) for part-time vs full-time. HR=1.44 (95%CI: 1.21-1.72) for self-employed vs full-time. |
| | | 11759 (women) | | | | | | | By education level (people who completed formal education at 16 years or older) HR=1.33 (95%CI: 1.09-1.63) for part-time vs full-time. HR=1.40 (95%CI: 1.12-1.73) for self-employed vs full-time. |
| | | 4933 (women) | | | | | | | By education level (people who completed formal education at 15 years or younger) HR=1.77 (95%CI: 1.31-2.38) for part-time vs full-time. HR=1.51 (95%CI: 1.10-2.07) for self-employed vs full-time. |
| | | 15461 (women) | | | | | | | By marital status (married) HR=1.42 (95%CI: 1.19-1.70) for part-time vs full-time. HR=1.37 (95%CI: 1.13-1.65) for self-employed vs full-time. |
| Fujino Y et al. (2007) Asian Pacific J Cancer Prev. 8:97-104. | JACC study | 1231 (women) | 40-79 | Prospective cohort | Mean follow-up period: 12.5 years | Type of employment (employed, part time, self-employed, housewife, unemployed, others) | All cause mortality | Age, area | By marital status (unmarried) HR=1.91 (95%CI: 1.11-3.28) for part-time vs full-time. HR=2.12 (95%CI: 1.33-3.40) for self-employed vs full-time. |
| | | 46465 (men) | | | | | | | HR=1.08 (95%CI: 0.92-1.27) for part time vs employed. HR=1.14 (95%CI: 1.07-1.22) for self-employment vs employed. HR=1.25 (95%CI: 0.69-2.28) for housewife vs employed. HR=1.59 (95%CI: 1.47-1.71) for unemployed vs employed. HR=1.26 (95%CI: 1.14-1.40) for others vs employed. |
| Fujino Y et al. (2007) Asian Pacific J Cancer Prev. 8:97-104. | JACC study | 64327 (women) | 40-79 | Prospective cohort | Mean follow-up period: 12.9 years | Type of employment (employed, part time, self-employed, housewife, unemployed, others) | All cancer mortality | Age, area | HR=1.09 (95%CI: 0.91-1.30) for part time vs employed. HR=1.18 (95%CI: 1.03-1.37) for self-employment vs employed. HR=1.15 (95%CI: 1.00-1.31) for housewife vs employed. HR=1.49 (95%CI: 1.30-1.71) for unemployed vs employed. HR=1.18 (95%CI: 0.99-1.40) for others vs employed. |
| | | 46465 (men) | | | | | | | HR=1.18 (95%CI: 0.93-1.50) for part time vs employed. HR=1.13 (95%CI: 1.02-1.26) for self-employment vs employed. HR=2.03 (95%CI: 0.96-4.29) for housewife vs employed. HR=1.29 (95%CI: 1.15-1.46) for unemployed vs employed. HR=1.26 (95%CI: 1.07-1.47) for others vs employed. |
| Fujino Y et al. (2007) Asian Pacific J Cancer Prev. 8:97-104. | JACC study | 46465 (men) | 40-79 | Prospective cohort | Mean follow-up period: 12.5 years | Type of employment (employed, part time, self-employed, housewife, unemployed, others) | All cancer mortality | Age, area | HR=1.23 (95%CI: 0.95-1.59) for part time vs employed. HR=1.25 (95%CI: 1.01-1.56) for self-employment vs employed. HR=1.24 (95%CI: 1.01-1.52) for housewife vs employed. HR=1.43 (95%CI: 1.15-1.77) for unemployed vs employed. HR=1.40 (95%CI: 1.07-1.83) for others vs employed. |
| | | 64327 (women) | | | | | | | HR=1.45 (95%CI: 0.43-4.84) for part time vs employed. HR=1.33 (95%CI: 0.82-2.17) for self-employment vs employed. HR=NA for housewife vs employed. HR=1.98 (95%CI: 1.12-3.51) for unemployed vs employed. HR=1.94 (95%CI: 0.96-3.93) for others vs employed. |
| | | 46465 (men) | | | | | | | HR=NA for part time vs employed. HR=0.40 (95%CI: 0.06-2.59) for self-employment vs employed. HR=0.41 (95%CI: 0.08-2.19) for housewife vs employed. HR=0.24 (95%CI: 0.04-1.42) for unemployed vs employed. HR=NA for others vs employed. |
| | | 64327 (women) | | | | | | | HR=1.45 (95%CI: 0.85-2.47) for part time vs employed. HR=1.40 (95%CI: 1.10-1.77) for self-employment vs employed. HR=1.53 (95%CI: 0.21-11.0) for housewife vs employed. HR=1.35 (95%CI: 1.02-1.79) for unemployed vs employed. HR=1.63 (95%CI: 1.15-2.30) for others vs employed. |
| Fujino Y et al. (2007) Asian Pacific J Cancer Prev. 8:97-104. | JACC study | 46465 (men) | 40-79 | Prospective cohort | Mean follow-up period: 12.5 years | Type of employment (employed, part time, self-employed, housewife, unemployed, others) | Esophageal cancer mortality | Age, area | HR=1.45 (95%CI: 0.85-2.47) for part time vs employed. HR=1.40 (95%CI: 1.10-1.77) for self-employment vs employed. HR=1.53 (95%CI: 0.21-11.0) for housewife vs employed. HR=1.35 (95%CI: 1.02-1.79) for unemployed vs employed. HR=1.63 (95%CI: 1.15-2.30) for others vs employed. |
| | | 64327 (women) | | | | | | | HR=NA for part time vs employed. HR=0.40 (95%CI: 0.06-2.59) for self-employment vs employed. HR=0.41 (95%CI: 0.08-2.19) for housewife vs employed. HR=0.24 (95%CI: 0.04-1.42) for unemployed vs employed. HR=NA for others vs employed. |
| Fujino Y et al. (2007) Asian Pacific J Cancer Prev. 8:97-104. | JACC study | 46465 (men) | 40-79 | Prospective cohort | Mean follow-up period: 12.5 years | Type of employment (employed, part time, self-employed, housewife, unemployed, others) | Stomach cancer | Age, area | HR=1.45 (95%CI: 0.85-2.47) for part time vs employed. HR=1.40 (95%CI: 1.10-1.77) for self-employment vs employed. HR=1.53 (95%CI: 0.21-11.0) for housewife vs employed. HR=1.35 (95%CI: 1.02-1.79) for unemployed vs employed. HR=1.63 (95%CI: 1.15-2.30) for others vs employed. |
| | | 64327 (women) | | | | | | | HR=NA for part time vs employed. HR=0.40 (95%CI: 0.06-2.59) for self-employment vs employed. HR=0.41 (95%CI: 0.08-2.19) for housewife vs employed. HR=0.24 (95%CI: 0.04-1.42) for unemployed vs employed. HR=NA for others vs employed. |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk | |
|---|------------------|---------------|--------------|--------------------|-----------------|--|-----------|--------------------|---|---|
| Fujino Y et al. (2007) Asian Pacific J Cancer Prev. 8:97-104. | JACC study | 64327 (women) | 40-79 | Prospective cohort | 12.5 years | Type of employment (employed, part time, self-employed, housewife, unemployed, others) | mortality | Age, area | HR=1.27 (95%CI: 0.68-2.36) for part time vs employed. HR=0.92 (95%CI: 0.53-1.59) for self-employment vs employed. HR=1.03 (95%CI: 0.63-1.70) for housewife vs employed. HR=1.13 (95%CI: 0.67-1.91) for unemployed vs employed. HR=1.18 (95%CI: 0.62-2.25) for others vs employed. | |
| | | 46465 (men) | | | | | | | Mean follow-up period: 12.5 years | HR=0.50 (95%CI: 0.12-2.10) for part time vs employed. HR=1.01 (95%CI: 0.67-1.53) for self-employment vs employed. HR=4.95 (95%CI: 0.67-36.3) for housewife vs employed. HR=1.59 (95%CI: 0.99-2.55) for unemployed vs employed. HR=0.72 (95%CI: 0.33-1.60) for others vs employed. |
| | | 64327 (women) | | | | | | | Mean follow-up period: 12.9 years | HR=0.60 (95%CI: 0.24-1.47) for part time vs employed. HR=0.88 (95%CI: 0.46-1.69) for self-employment vs employed. HR=0.70 (95%CI: 0.38-1.29) for housewife vs employed. HR=0.72 (95%CI: 0.37-1.37) for unemployed vs employed. HR=0.88 (95%CI: 0.39-1.95) for others vs employed. |
| | | 46465 (men) | | | | | | | Mean follow-up period: 12.5 years | HR=1.26 (95%CI: 0.44-3.61) for part time vs employed HR=0.94 (95%CI: 0.59-1.49) for self-employment vs employed. HR=6.36 (95%CI: 0.86-47.1) for housewife vs employed. HR=1.29 (95%CI: 0.74-2.24) for unemployed vs employed. HR=1.20 (95%CI: 0.56-2.55) for others vs employed. |
| | | 64327 (women) | | | | | | | Mean follow-up period: 12.9 years | HR=1.14 (95%CI: 0.39-3.31) for part time vs employed. HR=1.04 (95%CI: 0.41-2.62) for self-employment vs employed. HR=0.70 (95%CI: 0.28-1.72) for housewife vs employed. HR=1.14 (95%CI: 0.44-2.91) for unemployed vs employed. HR=1.79 (95%CI: 0.61-5.24) for others vs employed. |
| | | 46465 (men) | | | | | | | Mean follow-up period: 12.5 years | HR=1.86 (95%CI: 0.98-3.54) for part time vs employed. HR=1.22 (95%CI: 0.91-1.65) for self-employment vs employed. HR=NA for housewife vs employed. HR=1.84 (95%CI: 1.31-2.61) for unemployed vs employed. HR=1.39 (95%CI: 0.83-2.34) for others vs employed. |
| | | 64327 (women) | | | | | | | Mean follow-up period: 12.9 years | HR=1.91 (95%CI: 0.76-4.76) for part time vs employed. HR=1.49 (95%CI: 0.65-3.40) for self-employment vs employed. HR=2.01 (95%CI: 0.94-4.30) for housewife vs employed. HR=1.95 (95%CI: 0.87-4.36) for unemployed vs employed. HR=1.24 (95%CI: 0.43-3.53) for others vs employed. |
| | | 46465 (men) | | | | | | | Mean follow-up period: 12.5 years | HR=3.06 (95%CI: 0.80-11.6) for part time vs employed. HR=0.91 (95%CI: 0.38-2.17) for self-employment vs employed. HR=NA for housewife vs employed. HR=2.05 (95%CI: 0.84-5.02) for unemployed vs employed. HR=0.83 (95%CI: 0.21-3.29) for others vs employed. |
| | | 64327 (women) | | | | | | | Mean follow-up period: 12.9 years | HR=1.55 (95%CI: 0.47-5.12) for part time vs employed. HR=1.09 (95%CI: 0.36-3.31) for self-employment vs employed. HR=0.93 (95%CI: 0.32-2.66) for housewife vs employed. HR=1.96 (95%CI: 0.67-5.70) for unemployed vs employed. HR=1.74 (95%CI: 0.47-6.33) for others vs employed. |
| | | 46465 (men) | | | | | | | Mean follow-up period: 12.5 years | HR=NA for part time vs employed. HR=1.28 (95%CI: 0.82-1.97) for self-employment vs employed. HR=5.43 (95%CI: 0.73-40.1) for housewife vs employed. HR=0.86 (95%CI: 0.50-1.48) for unemployed vs employed. HR=1.63 (95%CI: 0.89-2.99) for others vs employed. |
| | | 64327 (women) | | | | | | | Mean follow-up period: 12.9 years | HR=1.56 (95%CI: 0.52-4.67) for part time vs employed. HR=1.95 (95%CI: 0.77-4.92) for self-employment vs employed. HR=2.69 (95%CI: 1.13-6.37) for housewife vs employed. HR=3.08 (95%CI: 1.25-7.55) for unemployed vs employed. HR=3.51 (95%CI: 1.29-9.55) for others vs employed. |
| | | 46465 (men) | | | | | | | Mean follow-up period: 12.5 years | HR=1.44 (95%CI: 0.91-2.28) for part time vs employed. HR=1.13 (95%CI: 0.91-1.41) for self-employment vs employed. HR=1.25 (95%CI: 0.17-8.97) for housewife vs employed. HR=1.12 (95%CI: 0.87-1.45) for unemployed vs employed. HR=1.17 (95%CI: 0.84-1.62) for others vs employed. |
| | | 64327 (women) | | | | | | | Mean follow-up period: 12.9 years | HR=1.11 (95%CI: 0.43-2.82) for part time vs employed. HR=1.83 (95%CI: 0.89-3.76) for self-employment vs employed. HR=2.09 (95%CI: 1.05-4.13) for housewife vs employed. HR=2.13 (95%CI: 1.04-4.38) for unemployed vs employed. HR=2.18 (95%CI: 0.94-5.06) for others vs employed. |
| | | 46465 (men) | | | | | | | Mean follow-up period: 12.5 years | HR=0.71 (95%CI: 0.16-3.11) for part time vs employed. HR=0.90 (95%CI: 0.50-1.62) for self-employment vs employed. HR=4.82 (95%CI: 0.63-36.6) for housewife vs employed. HR=1.15 (95%CI: 0.62-2.12) for unemployed vs employed. HR=0.99 (95%CI: 0.43-2.26) for others vs employed. |
| | | 46465 (men) | | | | | | | Mean follow-up period: 12.5 years | HR=NA for part time vs employed. HR=0.77 (95%CI: 0.31-1.91) for self-employment vs employed. HR=NA for housewife vs employed. HR=0.90 (95%CI: 0.31-2.59) for unemployed vs employed. HR=0.91 (95%CI: 0.22-3.65) for others vs employed. |
| | | | | | | | | | | |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|---|------------------|---------------|--------------|--------------------|-----------------|--|------------------------------------|--------------------|--|
| | | 64327 (women) | | | | Mean follow-up period: 12.9 years | | | HR=NA for part time vs employed. HR=0.31 (95% CI: 0.02-3.69) for self-employment vs employed. HR=0.53 (95% CI: 0.08-3.30) for housewife vs employed. HR=0.69 (95% CI: 0.10-4.86) for unemployed vs employed. HR=1.39 (95% CI: 0.16-11.6) for others vs employed. |
| | | 46465 (men) | | | | Mean follow-up period: 12.5 years | Urothelial tract cancer mortality | | HR=1.88 (95% CI: 0.52-6.74) for part time vs employed. HR=0.93 (95% CI: 0.45-1.92) for self-employment vs employed. HR=NA for housewife vs employed. HR=1.05 (95% CI: 0.47-2.35) for unemployed vs employed. HR=0.89 (95% CI: 0.29-2.67) for others vs employed. |
| | | 64327 (women) | | | | Mean follow-up period: 12.9 years | | | HR=0.85 (95% CI: 0.14-5.20) for part time vs employed. HR=0.38 (95% CI: 0.07-1.19) for self-employment vs employed. HR=0.48 (95% CI: 0.12-1.95) for housewife vs employed. HR=0.51 (95% CI: 0.12-2.17) for unemployed vs employed. HR=0.75 (95% CI: 0.11-4.93) for others vs employed. |
| | | 46465 (men) | | | | Mean follow-up period: 12.5 years | Non-Hodkin's lymphoma mortality | | HR=NA for part time vs employed. HR=0.80 (95% CI: 0.42-1.52) for self-employment vs employed. HR=NA for housewife vs employed. HR=1.07 (95% CI: 0.51-2.24) for unemployed vs employed. HR=0.69 (95% CI: 0.22-2.18) for others vs employed. |
| | | 64327 (women) | | | | Mean follow-up period: 12.9 years | | | HR=0.93 (95% CI: 0.20-4.19) for part time vs employed. HR=0.93 (95% CI: 0.27-3.21) for self-employment vs employed. HR=1.52 (95% CI: 0.49-4.69) for housewife vs employed. HR=0.79 (95% CI: 0.22-2.88) for unemployed vs employed. HR=NA for others vs employed. |
| | | 46465 (men) | | | | Mean follow-up period: 12.5 years | Multiple myeloma mortality | | HR=NA for part time vs employed. HR=1.43 (95% CI: 0.60-3.39) for self-employment vs employed. HR=NA for housewife vs employed. HR=1.54 (95% CI: 0.55-4.25) for unemployed vs employed. HR=0.88 (95% CI: 0.17-4.43) for others vs employed. |
| | | 64327 (women) | | | | Mean follow-up period: 12.9 years | | | HR=0.51 (95% CI: 0.05-4.99) for part time vs employed. HR=0.68 (95% CI: 0.13-3.51) for self-employment vs employed. HR=1.59 (95% CI: 0.42-5.94) for housewife vs employed. HR=2.22 (95% CI: 0.53-9.22) for unemployed vs employed. HR=0.77 (95% CI: 0.07-7.90) for others vs employed. |
| | | 46465 (men) | | | | Mean follow-up period: 12.5 years | Myeloid leukemia mortality | | HR=1.07 (95% CI: 0.13-8.48) for part time vs employed. HR=1.22 (95% CI: 0.55-2.69) for self-employment vs employed. HR=NA for housewife vs employed. HR=1.04 (95% CI: 0.36-2.96) for unemployed vs employed. HR=0.42 (95% CI: 0.05-3.42) for others vs employed. |
| | | 64327 (women) | | | | Mean follow-up period: 12.9 years | | | HR=NA for part time vs employed. HR=NA for self-employment vs employed. HR=NA for housewife vs employed. HR=NA for unemployed vs employed. HR=NA for others vs employed. |
| | | 64327 (women) | | | | Mean follow-up period: 12.9 years | Breast cancer mortality | | HR=1.60 (95% CI: 0.66-3.87) for part time vs employed. HR=1.84 (95% CI: 0.83-4.10) for self-employment vs employed. HR=1.60 (95% CI: 0.75-3.43) for housewife vs employed. HR=2.17 (95% CI: 0.90-5.21) for unemployed vs employed. HR=0.77 (95% CI: 0.16-3.59) for others vs employed. |
| | | 64327 (women) | | | | Mean follow-up period: 12.9 years | Cervical cancer mortality | | HR=0.26 (95% CI: 0.03-2.27) for part time vs employed. HR=0.60 (95% CI: 0.15-2.36) for self-employment vs employed. HR=0.63 (95% CI: 0.19-2.07) for housewife vs employed. HR=0.75 (95% CI: 0.19-2.97) for unemployed vs employed. HR=0.85 (95% CI: 0.15-4.77) for others vs employed. |
| Cancer morbidity | | | | | | | | | |
| CVD mortality | | | | | | | | | |
| | | 46465 (men) | | | | Mean follow-up period: 12.5 years | Ischemic heart diseases mortality | | HR=0.71 (95% CI: 0.33-1.56) for part time vs employed. HR=1.11 (95% CI: 0.84-1.46) for self-employment vs employed. HR=NA for housewife vs employed. HR=1.64 (95% CI: 1.21-2.21) for unemployed vs employed. HR=1.39 (95% CI: 0.94-2.05) for others vs employed. |
| Fujino Y et al. (2007) Asian Pacific J Cancer Prev. 8:97-104. | JACC study | | 40-79 | Prospective cohort | | Type of employment (employed, part time, self-employed, housewife, unemployed, others) | | Age, area | HR=1.06 (95% CI: 0.67-1.69) for part time vs employed. HR=1.08 (95% CI: 0.88-1.32) for self-employment vs employed. HR=0.84 (95% CI: 0.11-6.04) for housewife vs employed. HR=1.58 (95% CI: 1.27-1.96) for unemployed vs employed. HR=1.24 (95% CI: 0.93-1.65) for others vs employed. |
| | | 64327 (women) | | | | Mean follow-up period: 12.9 years | Ischemic heart diseases mortality | | HR=0.86 (95% CI: 0.53-1.38) for part time vs employed. HR=0.90 (95% CI: 0.62-1.31) for self-employment vs employed. HR=0.86 (95% CI: 0.61-1.21) for housewife vs employed. HR=1.08 (95% CI: 0.76-1.53) for unemployed vs employed. HR=0.87 (95% CI: 0.56-1.35) for others vs employed. |
| | | | | | | | Cerebrovascular diseases mortality | | HR=1.11 (95% CI: 0.55-2.24) for part time vs employed. HR=0.59 (95% CI: 0.32-1.10) for self-employment vs employed. HR=0.69 (95% CI: 0.40-1.20) for housewife vs employed. HR=0.95 (95% CI: 0.55-1.64) for unemployed vs employed. HR=0.61 (95% CI: 0.29-1.27) for others vs employed. |
| CVD morbidity | | | | | | | | | |
| Self-rated Health | | | | | | | | | |

| Author, published year | Studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|--|--|------------------------------------|--|--|---|---|---|--|
| Psychological distress/depression | | | | | | | | | |
| Miyake Y et al.(2012). BMC Psychiatry. 12:117. | Kyushu Okinawa Maternal and Child Health Study (KOMCHS) | 1741 (women) | NA (age, years, mean±SD: 31.2±4.4) | Cross sectional | — | Employment status (unemployed, part-time employment, full-time employment, missing data) | Antenatal depression (CES-D ≥ 16) | Age, gestation, region of residence, family structure, history of depression, family history of depression, smoking, and secondhand smoke exposure at home and at work, household income, education | OR=0.66 (95%CI: 0.46-0.95) for part-time employment vs unemployed. OR=0.61 (95%CI: 0.48-0.90) for full-time employment vs unemployed. OR=0.24 (95%CI: 0.01-1.31) for missing data vs unemployed. |
| Fushimi M et al. (2013) Community Ment Health J. 49:236-242. | Northern Japan Occupational Health Promotion Centers Collaboration Study for Mental Health (NOCS-MH) | 1069 (men) 1151 (women) 1069 (men) 1151 (women) | — | Cross sectional | — | Employment status (full-time work, no full-time work) Working hours per day (≤ 8 h, >8h) | Depressive symptoms (CES-D ≥ 16) | Age, education, employment type, job category, working hours per day, sleep duration, smoking behavior, and alcohol consumption | OR =1.05 (95%CI: 0.64-1.70) for no full-time work vs full-time work. OR =1.26 (95%CI: 0.84-1.88) for no full-time work vs full-time work. OR=1.00 (95%CI: 0.76-1.32) for >8h work vs ≤ 8h work. OR=1.37 (95%CI: 1.02-1.83) for >8h work vs ≤ 8h work. |
| Kikuchi H et al. (2013) Psychogeriatrics. 13:229-236 | — | 971 (men) 923 (women) | 65-74 | Cross sectional (Community residents living in three Japanese municipalities; Bunkyo ward, Fuchu city, Oyama town) | — | Employment status (Not working, Part-time work(1-34 hours worked per week), Full-time work(≥ 35 hours worked per week)) | Psychological distress (K6 ≥ 5) | Age group, area, living arrangement, education attainment, physical limitation (Japanese version of eight-item short-form health survey) | OR=0.98 (95%CI: 0.66-1.46) for part-time work vs not working. OR=1.02 (95%CI: 0.68-1.53) for full-time work vs not working. OR=1.12 (95%CI: 0.75-1.68) for part-time work vs not working. OR=0.86 (95%CI: 0.48-1.52) for full-time work vs not working. |
| Inoue A et al. (2010) J Occupa Health. 52:227-240. | The Comprehensive Survey of the Living Conditions of People on Health and Welfare | 9461 (men) 7717 (women) | 15-83 | Cross sectional | — | Employment contract (permanent worker, temporary/contract worker, part-time worker, others) | Psychological distress (K6 ≥ 5) | Age, marital status, household income, occupation, company size | OR=0.92 (95%CI: 0.77-1.11) for temporary/contract worker vs permanent worker. OR=1.22 (95%CI: 1.01-1.46) for part-time worker vs permanent worker. OR=0.87 (95%CI: 0.54-1.41) for other vs permanent worker. OR=1.18 (95%CI: 1.01-1.39) for temporary/contract worker vs permanent worker. OR=1.04 (95%CI: 0.92-1.17) for part-time worker vs permanent worker. OR=0.81 (95%CI: 0.50-1.30) for other vs permanent worker. |
| Kachi Y et al. (2014) Scand J Work Environ Health. 40(5):465-472 | The Longitudinal Survey of Middleaged and Elderly Persons (LSMEP) | 8486 (men) 6736 (women) | 50-59 | Prospective cohort | 4 years | Employment (full-time permanent, precarious) | Serious psychological distress (K6 ≥ 14) | Age,marital status,equalized household expenditure,hours of work,occupation,companysize,organizational tenure,cardiovascular disease risk,and K6 scores(all covariates measured at baseline) | OR=2.32 (95%CI: 1.79-2.51) for precarious vs full-time permanent. OR=0.96 (95%CI: 0.72-1.29) for precarious vs full-time permanent. |
| Smoking | | | | | | | | | |
| Alcohol intake | | | | | | | | | |
| Hasegawa T et al. (2013) Industrial Health. 51:490-500. | Hamamatsu Survey on Mental Health and Measures against Suicide in2008 | 298 (men) 285 (woman) | 15-79 | Cross sectional | — | Employment type (full-time, part-time, self-employed) | Problem drinking (The CAGE questionnaire: we defined problem drinking as alcohol) | Age, marital status, depressive symptoms, annual family income, employment types, occupational types, company size, working hours | OR=0.99 (95%CI: 0.19-5.12) for part-time vs full-time. OR=1.32 (95%CI: 0.52-3.33) for self-employed vs full-time. OR=0.29 (95%CI: 0.04-2.32) for part-time vs full-time. OR=1.33 (95%CI: 0.95-135.53) for self-employed vs full-time. |
| Table5. Marital status and health outcome | | | | | | | | | |
| Author, published year | Studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
| All cause mortality | | | | | | | | | |
| Honjo K et al. (2014) Int J Behav Med. 21(5):737-49 | JACC study | 24460 (men) 32649 (women) | 40-65 | Prospective cohort | 16 years (mean follow up period: 14.7 years) | Marital status (married, separated/never married) | All cause mortality | Age, education level, occupation | Logistic estimate 0.411 for separated/never married vs married (p<0.05). Logistic estimate 0.192 for separated/never married vs married (p<0.05). |
| Honjo K et al. (2015) J Epidemiol Community Health; 69:1012-1017. | JACC study | 16692 (women) | 40-59 | Prospective cohort | 20 years (mean follow up period; 17.7 years) | Marital status (married, divorced/separated/widowed,never married) | All cause mortality | Age, area | HR=1.16 (95%CI: 0.92-1.45) for divorced/separated/widowed vs married. HR=2.00 (95%CI: 1.26-3.92) for never married vs married. |
| Zhu S et al. (2000) Environmental Health and Preventive Medicine. 5:66-74. | JACC study (as part of JACC study + subjects aged 29-39, 77) | 1290 (men) 1479 (women) | 29-77 | Prospective cohort | 4.5 years | Living with spouse (yes, no: widowed / divorced / unmarried) | All cause mortality | Age, obesity, previous or current illness, positive attitude to life, job, drinking habit, smoking habit | HR=2.61 (95%CI: 1.26-5.41) for not living with spouse vs living with spouse. HR=2.94 (95%CI: 1.32-6.57) for not living with spouse vs living with spouse. |
| Sato T et al. (2008) Archives of Gerontology and Geriatrics. 47:327-339. | Residential census data of a rural town in Hokkaido | 285 (men) 352 (women) | 68-82 | Prospective cohort | 12 years | Marital status:married or single | All cause mortality | Age,ADL,IADL,incontinence,cerebral apoplexy,self-rated health, depression,exercise, health practices | HR=0.65 (95%CI: 0.40-1.06) for married compared with single. HR=0.70 (95%CI: 0.46-1.08) for married compared with single. |
| Iwasaki M et al.(2002) Int J Epidemiol.; 31:1208-1218 | the Komo-Ise study | 5628 (men) 5932 (women) | 40-69 | Prospective cohort | 7 years | Marriage (married, single, divorced, widowed) | All cause mortality | Age, area, occupation, educational background, smoking habit, alcohol consumption, body mass index, chronic disease | RR=1.52 (95%CI: 0.81-2.85) for single vs married. RR=1.61 (95%CI: 0.79-3.29) for divorced vs married. RR=1.11 (95%CI: 0.62-2.00) for widowed vs married. RR=2.19 (95%CI: 1.17-4.09) for single vs married. RR=0.95 (95%CI: 0.34-2.63) for divorced vs married. RR=1.30 (95%CI: 0.77-2.21) for widowed vs married. |
| Nagata C et al. (2003) Ann Epidemiol.; 13:218-222. | Takayama study | 2039 (men) 1446 (women) | 65-94 | Prospective cohort | 1992-1999 | Marital status (married, separated/divorced, widowed) Marital status (married, widowed, widowed <3 years, widowed ≥ 3 years) | All cause mortality | Age, number of children, years of education, smoking status,occupation, alcohol intake Age, number of children, years of education, smoking status | HR=6.65 (95%CI: 2.46-18.0) for separated/divorced vs married. HR=1.02 (95%CI: 0.71-1.46) for widowed vs married. HR=0.69 (95%CI: 0.44-1.09) for widowed vs married. HR=0.86 (95%CI: 0.52-1.40) for widowed <3 years vs married. HR=0.40 (95%CI: 0.17-0.96) for widowed ≥ 3 years vs married. (p for trend 0.04) in relation to duration of widowhood. |
| Ikeda A et al. (2007) BMC Public Health. 7:73 | JACC study | 37781 (men) 52283 (women) | 40-79 | Prospective cohort | 11 years (mean follow-up period: 9.9 years) (89299 person years) | Marital status (married, widowed, divorced, single) | All cause mortality | Age, body mass index, smoking status, alcohol intake, education, minutes of walking, hours of doing sports, employment status, stress, having children, history of hypertension, history of diabetes. | RR=1.30 (95%CI: 1.17-1.45) for widowed vs married. RR=1.49 (95%CI: 1.21-1.85) for divorced vs married. RR=1.85 (95%CI: 1.46-2.34) for single vs married. RR=1.02 (95%CI: 0.94-1.11) for widowed vs married. RR=1.01 (95%CI: 0.80-1.27) for divorced vs married. RR=1.46 (95%CI: 1.15-1.84) for single women vs married. |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|--------------------|-----------------------------|--------------|--------------------|---|---|--|---|--|
| Sakauchi F. (2007) Asian Pacific J Cancer Prev;8:123-128 | JACC study | 497808 person-years (men) | 40-79 | Prospective cohort | Mean follow-up period: 12.5 years | Marital status (married, widowed, divorced/separated, single) | All cause mortality | Age, area | HR=1.28 (95%CI: 1.17-1.39) for spouse dead vs married. HR=1.39 (95%CI: 1.16-1.67) for divorced/separated vs married. HR=1.81 (95%CI: 1.48-2.20) for single vs married. |
| | | 701160 person-years (women) | | | | | | | Mean follow-up period: 12.9 years |
| Cancer mortality | | | | | | | | | |
| Iwasaki M et al.(2002) Int J Epidemiol.: 31:1208-1218 | the Komo-Ise study | 5628 (men) | 40-69 | Prospective cohort | 7 years | Marriage (married, single, divorced, widowed) | All cancer mortality | Age, area | RR=0.53 (95%CI: 0.13-2.20) for single vs married. RR=0.37 (95%CI: 0.05-2.63) for divorced vs married. RR=0.78 (95%CI: 0.32-1.92) for widowed vs married. |
| | | 5932 (women) | | | | | | | RR=1.10 (95%CI: 0.34-3.57) for single vs married. RR=1.35 (95%CI: 0.42-4.38) for divorced vs married. RR=1.11 (95%CI: 0.51-2.40) for widowed vs married. |
| Ikeda A et al. (2007) BMC Public Health. 7:73 | JACC study | 37781 (men) | 40-79 | Prospective cohort | 11 years (mean follow-up period: 9.9 years) (892998 person years) | Marital status (married, widowed, divorced, single) | All cancer mortality | Age, body mass index, smoking status, alcohol intake, education, minutes of walking, hours of doing sports, employment status, stress, having children, history of hypertension, history of diabetes. | RR=1.22 (95%CI: 1.02-1.45) for widowed men vs married men. RR=1.01 (95%CI: 0.68-1.50) for divorced men vs married men. RR=0.91 (95%CI: 0.56-1.47) for single men vs married men. |
| | | 52283 (women) | | | | | | | RR=0.96 (95%CI: 0.84-1.11) for widowed women vs married women. RR=1.02 (95%CI: 0.70-1.47) for divorced women vs married women. RR=1.25 (95%CI: 0.84-1.87) for single women vs married women. |
| Sakauchi F. (2007) Asian Pacific J Cancer Prev;8:123-128 | JACC study | 497808 person-years (men) | 40-79 | Prospective cohort | Mean follow-up period: 12.5 years | Marital Status (married, widowed, divorced/separated, single) | All cancer mortality | Age, area | HR=1.20 (95%CI: 1.04-1.40) for spouse dead vs married. HR=1.10 (95%CI: 0.80-1.52) for divorced/separated vs married. HR=0.94 (95%CI: 0.63-1.41) for single vs married. |
| | | 701160 person-years (women) | | | | | | | Mean follow-up period: 12.9 years |
| | | 497808 person-years (men) | | | Mean follow-up period: 12.5 years | | Esophagus cancers mortality | | HR=1.49 (95%CI: 0.72-3.09) for spouse dead vs married. HR=0.70 (95%CI: 0.10-4.99) for divorced/separated vs married. HR=0.72 (95%CI: 0.10-5.19) for single vs married. |
| | | 701160 person-years (women) | | | Mean follow-up period: 12.9 years | | | HR=0.76 (95%CI: 0.29-2.04) for spouse dead vs married. HR=NA for divorced/separated vs married. HR=3.07 (95%CI: 0.41-23.3) for single vs married. | |
| | | 497808 person-years (men) | | | Mean follow-up period: 12.5 years | | Stomach cancers mortality | | HR=1.17 (95%CI: 0.84-1.63) for spouse dead vs married. HR=1.29 (95%CI: 0.67-2.49) for divorced/separated vs married. HR=0.93 (95%CI: 0.39-2.25) for single vs married. |
| | | 701160 person-years (women) | | | Mean follow-up period: 12.9 years | | | HR=0.86 (95%CI: 0.64-1.16) for spouse dead vs married. HR=1.27 (95%CI: 0.63-2.58) for divorced/separated vs married. HR=1.31 (95%CI: 0.58-2.95) for single vs married. | |
| | | 497808 person-years (men) | | | Mean follow-up period: 12.5 years | | Colon cancers mortality | | HR=1.14 (95%CI: 0.60-2.19) for spouse dead vs married. HR=0.48 (95%CI: 0.07-3.44) for divorced/separated vs married. HR=1.32 (95%CI: 0.33-5.38) for single vs married. |
| | | 701160 person-years (women) | | | Mean follow-up period: 12.9 years | | | HR=1.10 (95%CI: 0.76-1.59) for spouse dead vs married. HR=1.86 (95%CI: 0.82-4.24) for divorced/separated vs married. HR=0.88 (95%CI: 0.22-3.57) for single vs married. | |
| | | 497808 person-years (men) | | | Mean follow-up period: 12.5 years | | | HR=2.47 (95%CI: 1.40-4.37) for spouse dead vs married. HR=1.32 (95%CI: 0.33-5.34) for divorced/separated vs married. HR=0.75 (95%CI: 0.11-5.43) for single vs married. | |
| | | 701160 person-years (women) | | | Mean follow-up period: 12.9 years | | Rectum cancers mortality | | HR=1.18 (95%CI: 0.63-2.19) for spouse dead vs married. HR=2.87 (95%CI: 1.03-8.01) for divorced/separated vs married. HR=1.88 (95%CI: 0.45-7.76) for single vs married. |
| | | 497808 person-years (men) | | | Mean follow-up period: 12.5 years | | | Liver cancers mortality | |
| | | 701160 person-years (women) | | | Mean follow-up period: 12.9 years | | HR=1.19 (95%CI: 0.84-1.69) for spouse dead vs married. HR=1.84 (95%CI: 0.86-3.95) for divorced/separated vs married. HR=0.33 (95%CI: 0.05-2.38) for single vs married. | | |
| | | 497808 person-years (men) | | | Mean follow-up period: 12.5 years | | Gall bladder cancers mortality | | |
| | | 701160 person-years (women) | | | Mean follow-up period: 12.9 years | | | HR=1.47 (95%CI: 0.82-2.61) for spouse dead vs married. HR=0.80 (95%CI: 0.11-5.82) for divorced/separated vs married. HR=1.13 (95%CI: 0.16-8.24) for single vs married. | |
| | | 497808 person-years (men) | | | Mean follow-up period: 12.5 years | | Pancreas cancers mortality | | HR=1.31 (95%CI: 0.72-2.37) for spouse dead vs married. HR=1.62 (95%CI: 0.51-5.07) for divorced/separated vs married. HR=1.47 (95%CI: 0.36-5.97) for single vs married. |
| | | 701160 person-years (women) | | | Mean follow-up period: 12.9 years | | | HR=0.56 (95%CI: 0.36-0.86) for spouse dead vs married. HR=1.47 (95%CI: 0.65-3.33) for divorced/separated vs married. HR=0.33 (95%CI: 0.05-2.36) for single vs married. | |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk | | |
|--|--|-----------------------------|--------------|--------------------|-----------------|---|--|--------------------|--|--|--|
| Sakauchi F. (2007) Asian Pacific J Cancer Prev;8:123-128 | JACC study | 497808 person-years (men) | 40-79 | Prospective cohort | 12.5 years | Marital Status (married, widowed, divorced/separated, single) | Lung cancers mortality | Age, area | HR=1.05 (95%CI: 0.76-1.45) for spouse dead vs married. HR=0.96 (95%CI: 0.45-2.01) for divorced/separated vs married. HR=1.34 (95%CI: 0.64-2.83) for single vs married. | | |
| | | 701160 person-years (women) | | | | | | | Mean follow-up period: 12.9 years | HR=1.10 (95%CI: 0.78-1.55) for spouse dead vs married. HR=0.90 (95%CI: 0.33-2.43) for divorced/separated vs married. HR=2.25 (95%CI: 1.05-4.82) for single vs married. | |
| | | 497808 person-years (men) | | | | | | | Mean follow-up period: 12.5 years | HR=1.18 (95%CI: 0.63-2.22) for spouse dead vs married. HR=2.17 (95%CI: 0.69-6.85) for divorced/separated vs married. HR=NA for single vs married. | |
| | | 497808 person-years (men) | | | | | | | Mean follow-up period: 12.5 years | HR=1.05 (95%CI: 0.25-4.47) for spouse dead vs married. HR=NA for divorced/separated vs married. HR=NA for single vs married. | |
| | | 701160 person-years (women) | | | | | | | Mean follow-up period: 12.9 years | HR=1.28 (95%CI: 0.32-5.21) for spouse dead vs married. HR=4.61 (95%CI: 0.58-36.8) for divorced/separated vs married. HR=NA for single vs married. | |
| | | 497808 person-years (men) | | | | | | | Mean follow-up period: 12.5 years | HR=1.48 (95%CI: 0.67-3.29) for spouse dead vs married. HR=1.22 (95%CI: 0.17-8.83) for divorced/separated vs married. HR=NA for single vs married. | |
| | | 701160 person-years (women) | | | | | | | Mean follow-up period: 12.9 years | HR=1.01 (95%CI: 0.42-2.41) for spouse dead vs married. HR=3.68 (95%CI: 0.85-16.0) for divorced/separated vs married. HR=NA for single vs married. | |
| | | 497808 person-years (men) | | | | | | | Mean follow-up period: 12.5 years | HR=1.82 (95%CI: 0.78-4.26) for spouse dead vs married. HR=1.19 (95%CI: 0.17-8.60) for divorced/separated vs married. HR=4.88 (95%CI: 1.50-15.9) for single vs married. | |
| | | 701160 person-years (women) | | | | | | | Mean follow-up period: 12.9 years | HR=0.61 (95%CI: 0.27-1.42) for spouse dead vs married. HR=NA for divorced/separated vs married. HR=1.22 (95%CI: 0.17-8.86) for single vs married. | |
| | | 497808 person-years (men) | | | | | | | Mean follow-up period: 12.5 years | HR=1.89 (95%CI: 0.57-6.34) for spouse dead vs married. HR=NA for divorced/separated vs married. HR=NA for single vs married. | |
| | | 701160 person-years (women) | | | | | | | Mean follow-up period: 12.9 years | HR=0.94 (95%CI: 0.40-2.17) for spouse dead vs married. HR=NA for divorced/separated vs married. HR=NA for single vs married. | |
| | | 497808 person-years (men) | | | | | | | Mean follow-up period: 12.5 years | HR=1.50 (95%CI: 0.35-6.39) for spouse dead vs married. HR=NA for divorced/separated vs married. HR=NA for single vs married. | |
| | | 701160 person-years (women) | | | | | | | Mean follow-up period: 12.9 years | HR=1.19 (95%CI: 0.44-3.19) for spouse dead vs married. HR=NA for divorced/separated vs married. HR=NA for single vs married. | |
| | | 701160 person-years (women) | | | | | | | mean follow-up period: 12.9 years | Brest cancers mortality | HR=1.75 (95%CI: 0.97-3.17) for spouse dead vs married. HR=1.61 (95%CI: 0.50-5.15) for divorced/separated vs married. HR=2.04 (95%CI: 0.64-6.53) for single vs married. |
| | | 701160 person-years (women) | | | | | | | mean follow-up period: 12.9 years | Cervix uteri cancers mortality | HR=0.52 (95%CI: 0.15-1.82) for spouse dead vs married. HR=NA for divorced/separated vs married. HR=3.53 (95%CI: 0.83-15.0) for single vs married. |
| Cancer morbidity | | | | | | | | | | | |
| CVD mortality | | | | | | | | | | | |
| Iwasaki M et al.(2002) Int J Epidemiol.; 31:1208-1218 | the Komo-Ise study | 5628 (men) | 40-69 | Prospective cohort | 7 years | Marriage (married, single, divorced, widowed) | All circulatory system disease mortality | Age, area | RR=2.27 (95%CI: 0.94-5.47) for single vs married. RR=1.24 (95%CI: 0.30-5.07) for divorced vs married. RR=1.57 (95%CI: 0.68-3.62) for widowed vs married. | | |
| | | 5932 (women) | | | | | | | RR=2.61 (95%CI: 1.01-6.73) for single vs married. RR=1.34 (95%CI: 0.32-5.61) for divorced vs married. RR=1.50 (95%CI: 0.68-3.31) for widowed vs married. | | |
| | | 5628 (men) | | | | | | | RR=3.02 (95%CI: 0.64-14.15) for single vs married. RR=2.21 (95%CI: 0.29-16.55) for divorced vs married. RR=2.75 (95%CI: 0.81-9.31) for widowed vs married. | | |
| | | 5932 (women) | | | | | | | RR=3.29 (95%CI: 0.38-28.11) for single vs married. RR for divorced compared with married and for widowed vs married are not available. | | |
| | | 5628 (men) | | | | | | | RR=1.94 (95%CI: 0.43-8.81) for single vs married. RR=1.72 (95%CI: 0.23-12.80) for divorced vs married. RR=2.36 (95%CI: 0.71-7.87) for widowed vs married. | | |
| 5932 (women) | RR=1.91 (95%CI: 0.44-8.35) for single vs married. RR=1.23 (95%CI: 0.16-9.31) for divorced vs married. RR=1.86 (95%CI: 0.67-5.18) for widowed vs married. | | | | | | | | | | |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|--|--|---|---|--------------------|---|--|---|---|---|
| Ikeda A et al. (2007) BMC Public Health. 7:73 | JACC study | 37781 (men) | 40-79 | Prospective cohort | 11 years (mean follow-up period: 9.9 years) (892998 person years) | Marital status (married, widowed, divorced, single) | Stroke mortality (ICD10: I60-I69) | Age, body mass index, smoking status, alcohol intake, education, minutes of walking, hours of doing sports, employment status, stress, having children, history of hypertension, history of diabetes. | RR=1.51 (95%CI: 1.14-2.00) for widowed men vs married men. RR=1.13 (95%CI: 0.53-2.39) for divorced men vs married men. RR=2.29 (95%CI: 1.12-4.69) for single men vs married men. |
| | | 52283 (women) | | | | | | | RR=1.10 (95%CI: 0.90-1.35) for widowed women vs married women. RR=1.31 (95%CI: 0.76-2.26) for divorced women vs married women. RR=0.87 (95%CI: 0.38-1.97) for single women vs married women. |
| | | 37781 (men) | | | | | | | RR=1.60 (95%CI: 1.07-2.40) for widowed men vs married men. RR=1.73 (95%CI: 0.76-3.90) for divorced men vs married men. RR=3.46 (95%CI: 1.57-7.58) for single men vs married men. |
| | | 52283 (women) | | | | | | | RR=1.14 (95%CI: 0.83-1.56) for widowed women vs married women. RR=0.82 (95%CI: 0.29-2.26) for divorced women vs married women. RR=1.07 (95%CI: 0.33-3.46) for single women vs married women. |
| | | 37781 (men) | | | | | | | RR=1.46 (95%CI: 1.20-1.77) for widowed men vs married men. RR=1.50 (95%CI: 0.98-2.29) for divorced men vs married men. RR=2.95 (95%CI: 1.96-4.45) for single men vs married men. |
| | | 52283 (women) | | | | | CVD mortality (ICD10: I01-I99) | | RR=1.07 (95%CI: 0.93-1.23) for widowed women vs married women. RR=0.95 (95%CI: 0.62-1.46) for divorced women vs married women. RR=1.47 (95%CI: 0.94-2.30) for single women vs married women. |
| Sakauchi F. (2007) Asian Pacific J Cancer Prev;8:123-128 | JACC study | 497808 person-years (men) | 40-79 | Prospective cohort | Mean follow-up period: 12.5 years | Marital Status (married, widowed, divorced/separated, single) | Ischemic heart diseases mortality | Age, area | HR=1.59 (95%CI: 1.17-2.17) for spouse dead vs married HR=1.43 (95%CI: 0.71-2.88) for divorced/separated vs married HR=2.16 (95%CI: 1.07-4.36) for single vs married |
| | | 701160 person-years (women) | | | | | | | HR=0.99 (95%CI: 0.77-1.25) for spouse dead vs married. HR=1.31 (95%CI: 0.67-2.57) for divorced/separated vs married. HR=1.43 (95%CI: 0.67-3.05) for single vs married. |
| | | 497808 person-years (men) | | | | | | | HR=1.20 (95%CI: 0.95-1.52) for spouse dead vs married HR=0.84 (95%CI: 0.43-1.61) for divorced/separated vs married HR=1.65 (95%CI: 0.88-3.08) for single vs married |
| | | 701160 person-years (women) | | | | | | | HR=1.14 (95%CI: 0.98-1.33) for spouse dead vs married. HR=1.32 (95%CI: 0.85-2.05) for divorced/separated vs married. HR=0.96 (95%CI: 0.53-1.74) for single vs married. |
| CVD morbidity | | | | | | | | | |
| Honjo K et al. (2016) Stroke;47:991-998 | JPHC Cohort study | 24162 (men) | 45-64 | Prospective cohort | Median follow-up period: 15.0 years | Marital transition (no: continuously lived with their spouse from pre baseline, yes: stopped living with their spouse before baseline) | Total stroke incidence | Age, residential area, occupation and living arrangement (with child, parent, and others) | HR=1.26 (95%CI: 1.13-1.41) for having marital transition vs not having. HR=1.26 (95%CI: 1.09-1.45) for having marital transition vs not having. |
| | | 25626 (women) | | | | | | | HR=1.48 (95%CI: 1.24-1.78) for having marital transition vs not having. |
| | | 24162 (men) | | | | | | | HR=1.35 (95%CI: 1.10-1.65) for having marital transition vs not having. |
| | | 25626 (women) | | | | | | | HR=1.16 (95%CI: 1.01-1.10) for having marital transition vs not having. HR=1.16 (95%CI: 0.95-1.42) for having marital transition vs not having. |
| Self-rated Health | | | | | | | | | |
| Wang Net al. (2005) J Epidemiol. 5:155-162. | the Komo-Ise study | 2542 (men) | 47-77 | Prospective cohort | — | Marital status (married, single, widowed, divorced) | Self-reported fair or poor health | Age, area | OR=1.06 (95%CI: 0.46-2.48) for Separated vs Married. OR=1.61 (95%CI: 1.09-2.38) for Divorced vs Married. OR=0.82 (95%CI: 0.61-1.11) for Widowed vs Married. OR=1.44 (95%CI: 1.10-1.89) for Single vs Married. OR=1.20(95%CI: 0.57-2.49) for Separated vs Married. OR=1.28 (95%CI: 0.93-1.75) for Divorced vs Married. OR=1.09 (95%CI: 0.93-1.29) for Widowed vs Married. OR=1.014(95%CI: 0.87-1.49) for Single vs Married. |
| | | 2634 (women) | | | | | | | |
| Psychological distress/depression | | | | | | | | | |
| Fukuda Y et al. (2005) BMC Public Health | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 20030 (men) | 25-59 | Cross sectional | — | Marital status (married, single, widowed, divorced) | Stress (question: "Do you have any stress or worries in your daily life?" answers: "yes" defined as being stressed.) | Age, occupation, income, per capita income, unemployment(%) | OR=0.82 (95%CI: 0.75-0.88) for single vs married. OR=0.97 (95%CI: 0.67-1.41) for widow vs married. OR=1.06 (95%CI: 0.88-1.27) for divorced vs married. OR=0.73 (95%CI: 0.66-0.80) for single vs married. OR=0.92 (95%CI: 0.76-1.11) for widow vs married. OR=1.16 (95%CI: 1.01-1.34) for divorced vs married. |
| | | 21076 (women) | | | | | | | |
| Smoking | | | | | | | | | |
| Fukuda Y et al. (2005) Ann Epidemiol: 15:365-372 | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 20206 (men) | 18-54 | Cross sectional | — | Employment status (unemployed, employed) | Current smoker: "smoke every day" or "smoke on occasion but not every day. | Age, residence area, marital status, income, other smoker | Total OR=0.81 (95%CI: 0.75-0.87) for other vs married. |
| | | | 18-24 | | | | | | 18-24 years old OR=0.32 (95%CI: 0.21-0.49) for other vs married. |
| | | | 25-39 | | | | | | 25-39 years old OR=0.68 (95%CI: 0.61-0.76) for other vs married. |
| | | | 40-54 | | | | | | 40-54 years old OR=1.17 (95%CI: 1.03-1.32) for other vs married. |
| | | | 18-24 | | | | | | Total OR=1.42 (95%CI: 1.29-1.56) for other vs married. |
| | | | 21093 (women) | | | | | | 18-24 |
| | 25-39 | 25-39 years old OR=1.31 (95%CI: 1.14-1.51) for other vs married. | | | | | | | |
| | | 40-54 | 40-54 years old OR=2.53 (95%CI: 2.15-2.97) for other vs married. | | | | | | |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
|---|--|--|---------------|---|-------------------------------------|--|--|---|--|
| Fukuda Y et al. (2005) BMC Public Health | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 20030 (men) 21076 (women) | 25-59 | Cross sectional | — | Marital status (married, single, widowed or divorced) | Current smoker: "smoke every day" or "smoke on occasion but not every day." | Age, occupation, income, per capita income, unemployment(%) | OR=0.72 (95%CI: 0.66-0.78) for single vs married. OR=1.35 (95%CI: 0.93-1.95) for widow vs married. OR=1.89 (95%CI: 1.55-2.31) for divorced vs married. OR=1.00 (95%CI: 0.89-1.14) for single vs married. OR=1.07 (95%CI: 0.82-1.40) for widow vs married. OR=2.67 (95%CI: 2.30-3.09) for divorced vs married. |
| Hu L et al. (2007) J Occup Health. 49(6):443-52. | Annual survey on health, lifestyle habits and work stress among civil servants | 707 (men) 598 (women) | 20-64 | Cross sectional | — | Marital status (married, single, other (divorced, separated, widowed)) | Smoking (current smoker) | Unadjusted | OR=0.50 (95%CI: 0.28-0.91) for single vs married. OR=1.39 (95%CI: 0.53-3.66) for other vs married. OR=4.35 (95%CI: 1.88-10.05) for single vs married. OR=4.68 (95%CI: 1.60-13.66) for other vs married. |
| Alcohol intake | | | | | | | | | |
| Fukuda Y et al. (2005) BMC Public Health | The Comprehensive Survey of the Living Conditions of People on Health and Welfare (2001) | 20030 (men) 21076 (women) | 25-59 | Cross sectional | — | Marital status (married, single, widowed or divorced) | Excess alcohol consumption (more than 2.0 "gou" per day (one "gou" is a measure of 180 ml of Japanese sake, contains almost 20g of ethanol)) | Age, occupation, income, per capita income, unemployment(%) | OR=0.62(95%CI: 0.56-0.68) for single vs married. OR=0.83(95%CI: 0.55-1.25) for widow vs married. OR=1.10(95%CI: 0.91-1.33) for divorced vs married. OR=1.00 (95%CI: 0.82-1.21) for single vs married. OR=0.76 (95%CI: 0.49-1.19) for widow vs married. OR=1.68 (95%CI: 1.33-2.11) for divorced vs married. |
| Hasegawa T et al. (2013) Industrial Health. 51:490-500. | Hamamatsu Survey on Mental Health and Measures against Suicide in 2008 | 298 (men) 285 (woman) | 15-79 | Cross sectional | — | Marital status (married, single, separated) | Problem drinking (The CAGE questionnaire: we defined problem drinking as alcohol dependence and alcohol abuse/harmful drinking proven to be detected by CAGE questionnaire under selfadministered questionnaire) | Age, marital status, depressive symptoms, annual family income, employment types, occupational types, company size, working hours | OR=0.36 (95%CI: 0.11-1.20) for single vs married OR=0.27 (95%CI: 0.03-2.42) for separated vs married OR=0.84 (95%CI: 0.10-7.00) for single vs married OR=5.03 (95%CI: 0.72-35.4) for separated vs married |
| Table6. Residence character and health outcome | | | | | | | | | |
| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk |
| All cause mortality | | | | | | | | | |
| Murata C et al. (2005) J Epidemiol. 15:78-84. | — | 541 (men) 694 (women) 295 (men) 464 (women) | 65-74 ≤ 75 | Prospective cohort (Residents in Matsumura, Nagano Prefecture.) | 4 years (100 person-years) | Social relationships (living arrangement) | All cause mortality | Age, self-rated health, diagnosed illness, other social relationships, annual income, and home ownership | HR=0.87 (95%CI: 0.12-6.50) for living alone vs multi-generation household. HR=0.96 (95%CI: 0.55-1.68) for living couple vs multi-generation household. HR=0.42 (95%CI: 0.10-1.84) for living alone vs multi-generation household. HR=1.01 (95%CI: 0.49-2.07) for living couple vs multi-generation household. HR=0.49 (95%CI: 0.12-2.03) for living alone vs multi-generation household. HR=0.85 (95%CI: 0.49-1.48) for living couple vs multi-generation household. HR=0.35 (95%CI: 0.13-0.97) for living alone vs multi-generation household. HR=0.61 (95%CI: 0.19-1.97) for living couple vs multi-generation household |
| Sato T et al. (2008) Arch Gerontol Geriatr. 47(3):327-39. | Residential census data of a rural town in Hokkaido | 285 (men) 352 (women) | 68-82 | Prospective cohort | 12 years | Social network (living arrangement: cohobitation, alone) *The living arrangement was either "living alone" or "cohobitation". | All cause mortality | Age, ADL, IADL, incontinence, cerebral apoplexy, self-rated health, depression, exercise, health practices | HR=0.48 (95%CI: 0.22-1.06) for cohobitation vs living alone. HR=0.86 (95%CI: 0.41-1.78) for cohobitation vs living alone. |
| Ikeda A et al. (2009) Heart;95:577-583 | JPHC Cohort Study | 43393 (men) 47594 (women) | 40-69 | Prospective cohort | median follow-up period: 11.0 years | Living arrangement (alone, spouse, spouse+parent, spouse+child, spouse+child+parent, parent, child, child+parent, others) | All cause mortality | Age, public health center area, stress, health behavior variables (smoking, alcohol drinking, physical activity, body mass index) | HR=1.47 (95%CI: 1.26-1.72) for living alone vs living with spouse only. HR=0.79 (95%CI: 0.66-0.95) for living with spouse and parent vs living with spouse only. HR=0.96 (95%CI: 0.88-1.04) for living with spouse and child vs living with spouse only. HR=0.80 (95%CI: 0.71-0.89) for living with spouse, child and parent vs living with spouse only. HR=1.56 (95%CI: 1.30-1.86) for living with parent vs living with spouse only. HR=1.28 (95%CI: 1.11-1.47) for living with child vs living with spouse only. HR=1.13 (95%CI: 0.89-1.42) for living with child and parent vs living with spouse only. HR=1.58 (95%CI: 1.27-1.96) for living others compared to living with spouse only. HR=1.09 (95%CI: 0.92-1.31) for living alone vs living with spouse only. HR=0.76 (95%CI: 0.57-1.03) for living with spouse and parent vs living with spouse only. HR=0.95 (95%CI: 0.85-1.07) for living with spouse and child vs living with spouse only. HR=0.88 (95%CI: 0.73-1.06) for living with spouse, child and parent vs living with spouse only. HR=1.88 (95%CI: 1.46-2.42) for living with parent vs living with spouse only. HR=1.04 (95%CI: 0.90-1.20) for living with child vs living with spouse only. HR=1.01 (95%CI: 0.75-1.37) for living with child and parent vs living with spouse only. HR=1.29 (95%CI: 0.97-1.73) for living others compared to living with spouse only. |
| Iwasaki M et al.(2002) Int J Epidemiol.; 31:1208-1218 | the Komo-Ise study | 5628 (men) 5932 (women) | 40-69 | Prospective cohort | 7 years | Household size per each additional person | All cause mortality | Age, area, occupation, educational background, smoking habit, alcohol consumption, body mass index, chronic disease | RR=0.91 (95%CI: 0.84-0.99) for per each additional person. RR=0.91 (95%CI: 0.81-1.03) for per each additional person. |
| Cancer mortality | | | | | | | | | |
| Iwasaki M et al.(2002) Int J Epidemiol.; 31:1208-1218 | the Komo-Ise study | 5628 (men) 5932 (women) | 40-69 | Prospective cohort | 7 years | Household size per each additional person | All cancer mortality | Age, area, occupation, educational background, smoking habit, alcohol consumption, body mass index, chronic disease | RR=0.90 (95%CI: 0.80-1.02) for per each additional person. RR=0.95 (95%CI: 0.79-1.15) for per each additional person. |

| Author, published year | studycohort name | Sample size | Age at entry | Study design | Follow-up years | Measures | Outcome | Adjusted variables | Relative risk | |
|--|--------------------|------------------|--------------|--|-------------------------------------|--|---|---|--|--|
| Cancer morbidity | | | | | | | | | | |
| CVD mortality | | | | | | | | | | |
| Ikeda A et al. (2009) Heart:95:577-583 | JPHC Cohort Study | 43393 (men) | 40-69 | Prospective cohort | median follow-up period: 11.0 years | Living arrangement (alone, spouse, spouse+parent, spouse+child, spouse+child+parent, parent, child, child+parent, others) | Coronary heart disease mortality | Age, public health center area, stress, health behavior variables (smoking, alcohol drinking, physical activity, body mass index) | HR=1.43 (95%CI: 0.73-2.81) for living alone vs living with spouse only. HR=0.57 (95%CI: 0.23-1.42) for living with spouse and parent vs living with spouse only. HR=1.11(95%CI: 0.79-1.57) for living with spouse and child vs living with spouse only. HR=1.01 (95%CI:0.63-1.62) for living with spouse, child and parent vs living with spouse only. HR=2.02 (95%CI: 1.03-3.98) for living with parent vs living with spouse only. HR=1.54 (95%CI: 0.86-2.76) for living with child vs living with spouse only. HR=0.81 (95%CI: 0.25-2.65) for living with child and parent vs living with spouse only. HR=3.78 (95%CI: 1.95-7.32) for living others compared to living with spouse only. | |
| | | 47594 (women) | | | | | | | HR=2.72 (95%CI: 1.37-5.38) for living alone vs living with spouse only. HR=1.45 (95%CI: 0.42-4.97) for living with spouse and parent vs living with spouse only. HR=1.26 (95%CI: 0.69-2.30) for living with spouse and child vs living with spouse only. HR=1.00 (95%CI: 0.36-2.79) for living with spouse, child and parent vs living with spouse only. HR=4.94 (95%CI: 1.81-13.5) for living with parent vs living with spouse only. HR=1.85 (95%CI: 0.95-3.62) for living with child vs living with spouse only. HR=2.73 (95%CI: 0.78-9.51) for living with child and parent vs living with spouse only. HR=0.80 (95%CI: 0.11-6.00) for living others compared to living with spouse only. | |
| Iwasaki M et al.(2002) Int J Epidemiol.; 31:1208-1218 | the Komo-Ise study | 5628 (men) | 40-69 | Prospective cohort | 7 years | Household size | per each additional person | Age, area, occupation, educational background, smoking habit, alcohol consumption, body mass index, chronic disease | CVD mortality | RR=0.94 (95%CI: 0.81-1.09) for per each additional person. |
| | | 5932 (women) | | | | | | | RR=0.87 (95%CI: 0.69-1.09) for per each additional person. | |
| | | 5628 (men) | | | | | | | RR=0.81 (95%CI: 0.60-1.10) for per each additional person. | |
| | | 5932 (women) | | | | | | | RR=0.83 (95%CI: 0.48-1.44) for per each additional person. | |
| Ikeda A et al. (2009) Heart:95:577-583 | JPHC Study | 5628 (men) | 40-69 | Prospective cohort | median follow-up period: 11.0 years | Living arrangement (alone, spouse, spouse+parent, spouse+child, spouse+child+parent, parent, child, child+parent, others) | Coronary heart disease incidence | Age, public health center area, stress, health behavior variables (smoking, alcohol drinking, physical activity, body mass index) | Ischemic heart disease mortality | RR=0.88 (95%CI: 0.69-1.13) for per each additional person. |
| | | 5932 (women) | | | | | | | RR=0.94 (95%CI: 0.67-1.32) for per each additional person. | |
| CVD morbidity | | | | | | | | | | |
| Ikeda A et al. (2009) Heart:95:577-583 | JPHC Study | 43393 (men) | 40-69 | Prospective cohort | median follow-up period: 11.0 years | Living arrangement (alone, spouse, spouse+parent, spouse+child, spouse+child+parent, parent, child, child+parent, others) | Coronary heart disease incidence | Age, public health center area, stress, health behavior variables (smoking, alcohol drinking, physical activity, body mass index) | HR=1.23 (95%CI: 0.74-2.02) for living alone vs living with spouse only. HR=0.90 (95%CI: 0.54-1.50) for living with spouse and parent vs living with spouse only. HR=1.06 (95%CI: 0.83-1.35) for living with spouse and child vs living with spouse only. HR=1.04 (95%CI: 0.76-1.41) for living with spouse, child and parent vs living with spouse only. HR=1.06 (95%CI: 0.63-1.81) for living with parent vs living with spouse only. HR=0.84 (95%CI: 0.52-1.37) for living with child vs living with spouse only. HR=1.17 (95%CI: 0.63-2.16) for living with child and parent vs living with spouse only. HR=0.41 (95%CI: 0.13-1.29) for living others compared to living with spouse only. | |
| | | 47594 (women) | | | | | | | HR=1.77 (95%CI: 0.92-3.39) for living alone vs living with spouse only. HR=3.03 (95%CI: 1.36-6.75) for living with spouse and parent vs living with spouse only. HR=2.11 (95%CI: 1.33-3.35) for living with spouse and child vs living with spouse only. HR=2.00 (95%CI: 1.01-3.94) for living with spouse, child and parent vs living with spouse only. HR=0.70 (95%CI: 0.09-5.17) for living with parent vs living with spouse only. HR=2.00 (95%CI: 1.16-3.43) for living with child vs living with spouse only. HR=1.17 (95%CI:0.27-4.98) for living with child and parent vs living with spouse only. HR=0.55 (95%CI: 0.07-4.06) for living others compared to living with spouse only. | |
| Self-rated Health | | | | | | | | | | |
| Wang Net al. (2005) J Epidemiol. 5:155-162. | the Komo-Ise study | 2542 (men) | 47-77 | Prospective cohort | 7 years | Household size: per each additional person | Self-reported fair or poor health | Age, area, education, occupation, marital status, house hold, house hold income, physical activity, sleeping alcohol habit, smoking habit, check-up, BMI, social isolation, social support factors. | OR=1.03 (95%CI: 0.97-1.09) for per each additional person. OR=0.96 (95%CI: 0.96-1.08) for per each additional person. | |
| Psychological distress/depression | | | | | | | | | | |
| Kikuchi H et al. (2014) Soc Psychiatry Psychiatr Epidemiol. 49:823-830 | — | 931 (men) | 65-74 | Cross sectional (Community residents living in three Japanese municipalities: Bunkyo ward, Fuchu city, Oyama town) | — | Living arrangement (living with spouse only, living with spouse and other family, living with other family without spouse, living alone) | High nonspecific psychological distress (K6 \geq 5) | Age, residence, education, employment status, physical limitation, moderate to vigorous physical activity | OR=NA for living with spouse and other family vs living with spouse only OR=2.85 (95%CI: 1.51-5.39) for living with other family without spouse vs living with spouse only. OR=1.99 (95%CI: 1.15-3.46) for living alone vs living with spouse only. | |
| Kikuchi H et al. (2013) Psychogeriatrics. 13:229-236 | — | 876 (women) | 65-74 | Cross sectional study (Community residents living in three Japanese municipalities: Bunkyo ward, Fuchu city, Oyama town) | — | Living arrangements (living with others, living alone) | Psychological distress (K6 \geq 5) | Age, group, area, education attainment, employment status, physical limitation (Japanese version of eight-item short-form health survey) | OR=1.53 (95%CI: 1.03-2.28) for living with a spouse and other family vs living with spouse only. (p<0.05) OR=NA for living with other family without spouse vs living with spouse only. OR=1.81 (95%CI: 1.08-3.05) for living alone vs living with spouse only. | |
| Kikuchi H et al. (2013) Psychogeriatrics. 13:229-236 | — | 971 (men) | 65-74 | Cross sectional study (Community residents living in three Japanese municipalities: Bunkyo ward, Fuchu city, Oyama town) | — | Living arrangements (living with others, living alone) | Psychological distress (K6 \geq 5) | Age, group, area, education attainment, employment status, physical limitation (Japanese version of eight-item short-form health survey) | OR=1.55 (95%CI: 0.94-2.56) for living alone vs living with others. | |
| | | 923 (women) | | | | | | | OR=1.49 (95%CI: 0.94-2.36) for living alone vs living with others. | |
| Smoking | | | | | | | | | | |
| Alcohol intake | | | | | | | | | | |

| 社会決定要因 | 健康指標 | 検索式 |
|----------|-------|---|
| 教育歴 | 死亡・罹患 | japan[ad] AND "Educational Status"[mh] AND ("mortality"[mh] OR "morbidity"[mh]) NOT "animals"[mh:noexp] AND English[lang] NOT (Case Reports[ptyp] OR Clinical Study[ptyp] OR Review[ptyp] OR systematic[sb] OR Letter[ptyp] OR Guideline[ptyp] OR Editorial[ptyp] OR Comment[sb] OR Clinical Trial[ptyp] OR Meta-Analysis[ptyp]) |
| | その他 | japan[ad] AND "Educational Status"[mh] AND ("mental disorders"[mh] OR "stress, psychological"[mh] OR "smoking"[mh] OR "drinking behavior"[mh]) NOT "animals"[mh:noexp] AND English[lang] NOT (Case Reports[ptyp] OR Clinical Study[ptyp] OR Review[ptyp] OR systematic[sb] OR Letter[ptyp] OR Guideline[ptyp] OR Editorial[ptyp] OR Comment[sb] OR Clinical Trial[ptyp] OR Meta-Analysis[ptyp]) |
| 所得・収入 | 死亡・罹患 | japan[ad] AND "Income"[mh] AND ("mortality"[mh] OR "morbidity"[mh]) |
| | その他 | japan[ad] AND "Income"[mh] AND ("mental disorders"[mh] OR "stress, psychological"[mh] OR "smoking"[mh] OR "drinking behavior"[mh]) NOT "animals"[mh:noexp] AND English[lang] |
| 職業 | 死亡・罹患 | japan[ad] AND "Occupations"[mh] AND ("mortality"[mh] OR "morbidity"[mh]) NOT "animals"[mh:noexp] AND English[lang] |
| | その他 | japan[ad] AND "Occupations"[mh] AND ("mental disorders"[mh] OR "stress, psychological"[mh] OR "smoking"[mh] OR "drinking behavior"[mh]) NOT "animals"[mh:noexp] AND English[lang] |
| 雇用形態 | 死亡・罹患 | japan[ad] AND "Employment"[mh] AND ("mortality"[mh] OR "morbidity"[mh]) NOT "animals"[mh:noexp] AND English[lang] |
| | その他 | japan[ad] AND "Employment"[mh] AND ("mental disorders"[mh] OR "stress, psychological"[mh] OR "smoking"[mh] OR "drinking behavior"[mh]) NOT "animals"[mh:noexp] AND English[lang] |
| 婚姻形態 | 死亡・罹患 | japan[ad] AND "Marital Status"[mh] AND ("mortality"[mh] OR "morbidity"[mh]) NOT "animals"[mh:noexp] AND English[lang] |
| | その他 | japan[ad] AND "Marital Status"[mh] AND ("mental disorders"[mh] OR "stress, psychological"[mh] OR "smoking"[mh] OR "drinking behavior"[mh]) NOT "animals"[mh:noexp] AND English[lang] |
| 居住形態 | 死亡・罹患 | japan[ad] AND "Residence Characteristics"[mh] AND ("mortality"[mh] OR "morbidity"[mh]) NOT "animals"[mh:noexp] AND English[lang] |
| | その他 | japan[ad] AND "Residence Characteristics"[mh] AND ("mental disorders"[mh] OR "stress, psychological"[mh] OR "smoking"[mh] OR "drinking behavior"[mh]) NOT "animals"[mh:noexp] AND English[lang] |
| ソーシャルサポー | 死亡・罹患 | japan[ad] AND "Social Support"[mh] AND ("mortality"[mh] OR "morbidity"[mh]) NOT "animals"[mh:noexp] AND English[lang] |
| | その他 | japan[ad] AND "Social Support"[mh] AND ("mental disorders"[mh] OR "stress, psychological"[mh] OR "smoking"[mh] OR "drinking behavior"[mh]) NOT "animals"[mh:noexp] AND English[lang] |