

Insomnia and Quality of Life in Elderly: WHOQOL-BREF and WHOQOL-OLD Indonesian Version

by Binar Cinta

Submission date: 30-Dec-2019 12:12PM (UTC+0700)

Submission ID: 1238718657

File name: Insomnia_and_Quality_of_Life_in_Elderly_edit.docx (69.83K)

Word count: 3200

Character count: 17840

Insomnia dan Kualitas Hidup Lanjut Usia: WHOQOL-BREF dan WHOQOL-OLD versi Bahasa Indonesia

Abstrak

Di Indonesia, lanjut usia (lansia) adalah seseorang yang telah mencapai usia 60 tahun ke atas. Seiring dengan pertambahan usia akan terjadi perubahan pada pola tidur dan proses terbangunnya seseorang sehingga memengaruhi terjadinya insomnia. Insomnia dapat menyebabkan penurunan kualitas hidup. Tujuan dari penelitian ini adalah menganalisis hubungan insomnia dengan kualitas hidup lansia yang diukur menggunakan WHOQOL-BREF dan WHOQOL-OLD versi Bahasa Indonesia. Penelitian analitik kuantitatif potong lintang telah dilakukan terhadap 60 orang lansia yang berasal dari 6 *Puskesmas* di Kota Bandung, Jawa Barat, Indonesia. Penelitian ini dilakukan mulai bulan Agustus sampai bulan November 2019. Pengukuran insomnia dilakukan menggunakan kuesioner *Insomnia Severity Index*, sedangkan pengukuran kualitas hidup dilakukan menggunakan kuesioner WHOQOL-BREF dan WHOQOL-OLD versi Bahasa Indonesia. Uji korelasi Spearman digunakan untuk analisis data. Penelitian ini menemukan bahwa kejadian insomnia pada lansia sebanyak 36,7% (95% IK:24.5%-48.9%). Hasil uji korelasi menemukan koefisien korelasi sebesar -0,386 untuk kualitas hidup menggunakan WHOQOL-BREF dan -0,302 menggunakan WHOQOL-OLD. Simpulan penelitian ini adalah proporsi insomnia pada lansia cukup tinggi dan korelasi lemah antara insomnia dengan kualitas hidup.

Kata kunci: Insomnia, kualitas hidup, lansia, ²WHOQOL-BREF, WHOQOL-OLD.

Insomnia and Quality of Life in Elderly: WHOQOL-BREF and WHOQOL-OLD Indonesian Version

Abstract

In Indonesia, The elderly are someone who has reached the age of 60 years old and over. Along with the aging, there will be changes in sleep pattern and awakening process so that insomnia will appear. Insomnia can cause decrease in quality of life. The aim of this study was to analyze the relationship between insomnia and quality of life in elderly which measured by WHOQOL-BREF and WHOQOL-OLD Indonesian version. The quantitative analytical cross-sectional study had been carried out to 60 elderly from 6 community health centers (*Puskesmas*) in Bandung City, West Java, Indonesia. This study was conducted from August to November 2019. Insomnia was measured by *Insomnia Severity Index* and quality of life was measured by WHOQOL-BREF and WHOQOL-OLD Indonesian version. The Spearman correlation test was used for data analysis. This study discovered that the proportion of insomnia in the elderly was 36,7%(95%CI:24.5%-48.9%).The correlation coefficient between insomnia and quality of life was -0,386 (WHOQOL-BREF) and -0,302 (WHOQOL-OLD). It can be concluded that the proportion of insomnia in the elderly is high and there is a correlation between insomnia and quality of life even though the correlation is weak.

Key words: Elderly, insomnia, quality of life, WHOQOL-BREF, WHOQOL-OLD.

INTRODUCTION

Aging will cause changes in sleep patterns and awakening process (Sateia and Buysse, 2010). Changes in sleep patterns and awakening process can cause one of the sleep disorders namely insomnia. Insomnia is a subjective complaint in the form of difficulty starting to sleep, difficulty maintaining sleep, and waking up too early which appears at least three nights a week and lasts for three months (Rodriguez, Dzierzewski, Alessi, 2015). Insomnia can cause several consequences such as difficulty concentrating, mood disorders, fatigue, anxiety about sleep patterns, increasing the risk of falling, and difficulties both physically and psychologically. Difficulty concentrating, fatigue, physical difficulties, and psychological difficulties can affect the ³¹ quality of life of the elderly (Rodriguez, Dzierzewski, Alessi, 2015), (Schmidt, Renaud, Van Der Linden, 2012), (Luo *et al.*, 2013).

⁷ According to *World Health Organization* (WHO), quality of life is an individual ¹⁶ perception about their position in life, in the context of culture and values in their surrounding environment, as well as ¹¹ with the goals, expectations, standards and attention of each individual (Larson *et al.*, 2012). A study conducted by Leger *et al.* (2012) reported that people with chronic insomnia had lower quality of life score compared to people who had good sleep patterns (Abd Allah, Abdel-Aziz, Abo El-Seoud, 2014).

Insomnia Severity Index (ISI) is an insomnia measurement instrument composed of seven items that ²⁵ assess the nature, severity, and impact of insomnia. This instrument consists of several dimensions which are the severity of sleep onset, ⁶ sleep maintenance, waking up too early, dissatisfaction with sleep, the relationship

between sleep disturbance and function during the day, sleep disturbance seen by others, and difficulties arising from sleep disorders (M. Morin *et al.*, 2010).

The World Health Organization developed several instruments for measuring the quality of life which is the World Health Organization Quality of Life (WHOQOL)-100 (WHOQOL-100), World Health Organization Quality of Life (WHOQOL)-BREF (WHOQOL-BREF), and specifically for the elderly is World Health Organization Quality of Life (WHOQOL)-OLD (WHOQOL-OLD) in addition to WHOQOL-100 or WHOQOL-BREF instruments. The WHOQOL-BREF instrument is a questionnaire consisting of 24 items covering four dimensions which are physical aspects, psychological aspects, social aspects, and environmental aspects (World Health Organization, 1996). The WHOQOL-OLD instrument is a questionnaire consisting of 24 items covering six dimensions which are sensory ability, autonomy, past, present and future activities, participation, death and dying, and intimacy (World Health Organization, 2006).

The aim of this study was to analyze the relationship between insomnia and quality of life in elderly as measured using the Indonesian version of WHOQOL-BREF and WHOQOL-OLD.

METHOD

A quantitative analytic study with a cross-sectional approach had been carried out from August 2019 to November 2019 in Bandung City, West Java, Indonesia. The population of this study was the elderly who were aged ≥ 60 years and who came for treatment at the community health centers (*Puskesmas*). The inclusion criteria

in this study were respondents aged ≥ 60 years, both men and women, came to *Puskesmas* for treatment, willing to participate in this study, able to speak and hear well, did not suffer from cognitive impairment as measured by a mini-cog test, and did not suffer from severe psychotic disorders as measured by MINI-Psychotic Symptoms. The exclusion criteria was the respondents who were not able to fill all the questionnaires until the end. From 80 *Puskesmas* in Bandung City, 16 *Puskesmas* had been used by other study so that the remaining *Puskesmas* were 64 *Puskesmas*. From those remaining *Puskesmas*, 10% of *Puskesmas* were taken (6 *Puskesmas*) using a random number with a computer. The number of respondents taken from each *Puskesmas* was 10 respondents. The respondents were taken from each *Puskesmas* using a consecutive sampling technique. This study was approved by the Ethics Commission of Padjadjaran University and The Bandung Municipality Health Office. The variables studied were insomnia and quality of life. Insomnia was measured using the Insomnia Severity Index (ISI) consisted of seven items, which were the severity of sleep onset, sleep maintenance, waking up too early, dissatisfaction with sleep, the relationship between sleep disturbance and function during the day, sleep disturbance seen by others, and difficulty which arises from sleep disorders. Each item was answered using a Likert Scale from zero to four. Zero point indicated no problems and four points indicated very severe problems. The total value of each item in this questionnaire was 0 to 28. The assessment of insomnia status was 0-7: no insomnia; 8-14: sub-threshold insomnia; 15-21: moderate insomnia; and 22-28: severe insomnia (M. Morin *et al.*, 2010).

³ Quality of life was measured using WHOQOL-BREF and WHOQOL-OLD. The WHOQOL-BREF instrument was a questionnaire consisted of 26 items, two of them assess ³⁰ quality of life and overall health, 24 items consisted of four dimensions which were ⁵ physical health (7 items), psychological (6 items), social relations (3 items), and environment (8 items) (World Health Organization, 1996). The WHOQOL-OLD instrument was a questionnaire consisting of 24 items with six dimensions, each dimension contained four items (World Health Organization, 2006). The six dimensions were ¹ sensory ability, independence, past activities, present, past and future activities, participation, death and dying, and intimacy (World Health Organization, 2006). The score of each item both in ²¹ WHOQOL-BREF and WHOQOL-OLD instruments used a Likert scale from one to five. After the questionnaire was filled out by the respondents, each dimension was added up, then the total score of each dimension was converted to a scale from zero to one hundred (World Health Organization, 2006).

Prior to data collection, selected respondents were given an explanation of the objectives, procedures, and risks of this study. After respondent agrees ⁵ to participate in this study, they signed the informed consent form. The data collection was carried out by guiding the respondents to answer the statements listed in the questionnaire ² of the ISI, WHOQOL-BREF and WHOQOL-OLD.

The categorical data from ISI scores and scores from each domain at both WHOQOL-BREF and WHOQOL-OLD, were transformed into interval data in the form of logit unit values using the Rasch Modelling, assisted by the Winstep program version 3.73. The logit unit value obtained was tested for normality using

Kolmogorov-Smirnov, assisted by the IBM® SPSS® version 22.0 program. The result of the normality test indicated that the transformed data were not normally distributed so the correlation test used in the study was the Spearman correlation test. The interpretation of the correlation coefficient was 0.00-0.10: there was no correlation; 0.10-0.39: weak correlation; 0.40-0.69: moderate correlation; 0.70-0.89: strong correlation; and 0.90-1.00: very strong correlation. (Schober and Schwarte, 2018) If the p value <0.05 indicates there is a significant relationship between insomnia and quality of life.

RESULT AND DISCUSSION

The study on the correlation between insomnia and quality of life in elderly had been carried out to 60 respondents from 6 *Puskesmas* in Bandung. This study discovered that 81.7% of respondents were aged 60-70 years, 66.7% were female, 73.3% were married, 41.7% had elementary school education and below, and 75% did not work. (Table 1)

Table 1 Respondent Characteristics

No.	Characteristics	n	%
1.	Age		
	60-70 years old	49	81.7
	>70 years old	11	18.3
2.	Gender		
	Male	20	33.3
	Female	40	66.7

3.	Marital Status		
	Married	44	73.3
	Divorced	16	26.7
4.	Education		
	Elementary School	25	41.7
	Junior High School	16	26.7
	Senior High School	13	21.7
	>Senior High School	6	10.0
5.	Profession		
	Unemployed	45	75.0
	Employed	15	25.0

Insomnia is a sleep disorder that often occurs in the elderly (El-Gilany *et al.*, 2017),²⁷ (Suzuki, Miyamoto and Hirata, 2017). The prevalence of insomnia in elderly varies, and is higher than in adults (Suzuki, Miyamoto, Hirata, 2017). A study conducted by Susan K Roepke and Sonia Ancoli-Israel (2010), discovered the prevalence of insomnia in the elderly is 42% (Roepke, Ancoli-Israel, 2010). Other study conducted by MT Tsou (2013) reported the prevalence of insomnia is 41% (Tsou, 2013). Woo Jung Kim et al (2017) found the prevalence of insomnia is 32.4% (Kim *et al.*, 2017). A study conducted in Nepal, found a prevalence of insomnia is 40.6% (Chhantyal, Rekha, 2017). Insomnia was measured by the Indonesian version of Insomnia Severity Index instrument. This study discovered that the proportion of insomnia in the elderly was 22 out of 60 respondents (36.7%, 95% CI:24.5%-48.9%). From 22 respondents who experienced insomnia, 14 respondents experienced sub-threshold insomnia, 7 respondents experienced

moderate insomnia, and only 1 respondent experienced severe insomnia. It appeared that the majority of respondents who experienced insomnia were aged 60-70 years, female, had a junior high school education or below, married, and not working.(Table 2)

Table 2 Respondent Characteristics and Insomnia

No.	Characteristic	Not Insomnia		Insomnia	
		n	%	n	%
1.	Age				
	60-70 years old	31	63.3	18	36.7
	>70 years old	7	63.6	4	36.4
2.	Gender				
	Male	14	70.0	6	30.0
	Female	24	60.0	16	40.0
3.	Marital Status				
	Married	30	68.2	14	31.8
	Divorced	8	50.0	8	50.0
4.	Education				
	Elementary School	12	48.0	13	52.0
	Junior High School	13	81.3	3	18.8
	Senior High School	7	53.8	6	46.2
	>Senior High School	6	100.0	0	0.0
5.	Profession				
	Unemployed	29	64.4	16	35.6
	Employed	9	60.0	6	40.0

The incidence of insomnia in the elderly is not related to the aging process (Tsou, 2013), but is related to the presence of comorbidities both physically and

mentally, the use of drugs, and changes in sleep patterns (El-Gilany *et al.*, 2017),(Suzuki, Miyamoto, Hirata, 2017),(Tsou, 2013). Changes in sleep patterns occur due to increased time spent in bed, awakening at night, as well as taking a nap (Roepke, Ancoli-Israel, 2010). In the elderly, deeper stages of sleep which is stage three or slow wave sleep and REM stage lasts for a shorter period of time, whereas lighter sleep lasts for a longer period of time (Roepke, Ancoli-Israel, 2010). Aging process also affects circadian rhythm (Roepke, Ancoli-Israel, 2010),(Mattis and Sehgal, 2016). The impact is the occurrence of insomnia, which is difficulty starting sleep, difficulty maintaining sleep, and waking up too early which appears at least three nights a week and lasts for three months (Rodriguez, Dzierzewski, Alessi, 2015). Insomnia in elderly can have a negative effect on sleep quality that causes fatigue during the day, cognitive impairment, decreased physical and psychological health, and decreased quality of life (El-Gilany *et al.*, 2017).

In this study, the ³quality of life in elderly was measured using WHOQOL-BREF and WHOQOL-OLD instrument, both of which were Indonesian versions. This study discovered that the median score of the four dimensions of the WHOQOL-BREF in the respondents who experienced insomnia was lower than the median score in the respondents who did not experience insomnia.(Table 3)

²⁹Table 3 Insomnia and Quality of Life Score in Elderly using ¹⁹WHOQOL- BREF

	WHOQOL-BREF			
	Physical	Psychological	Social	Environment
Not Insomnia (n=38)				

Median	69	69	69	69
Minimum	38	44	44	56
Maximum	88	81	75	81
Insomnia (n=22)				
Median	56	59.5	56	63
Minimum	38	44	25	38
Maximum	81	88	100	94

The results of this study are in line with a study conducted by Hatice Tel (2013) Sleep quality will decrease with age and poor quality of sleep negatively affects quality of life (Tel, 2013).¹² Insomnia has a large impact on an individual's ability to work, physical condition and quality life in general (Larson *et al.*, 2012),(Abd Allah, Abdel-Aziz, Abo El-Seoud, 2014).

This study discovered that the median score from the dimensions of ¹ sensory ability; past, present and future activities; death and dying in the respondents who experience insomnia was lower than the respondents who did not experience insomnia, whereas in the domain of autonomy; participation; and intimacy, the median score both for respondents who did not experience insomnia and who experienced insomnia was equal.

²⁸ **Table 4 Insomnia and Quality of Life Score in Elderly using WHOQOL-OLD**

WHOQOL-OLD

	Sensory Ability	Autonomy	Past, present, and future activities	Participation	Death and Dying	Intimacy
Not Insomnia (n=38)						
Median	87.5	62.5	68.75	68.75	81.25	75
Minimum	56.25	50	31.25	50	25	12.5
Maximum	100	100	81.25	81.25	100	100
Insomnia (n=22)						
Median	84.375	62.5	62.5	68.75	62.5	75
Minimum	25	43.75	6.25	25	18.75	37.5
Maximum	100	100	81.25	100	100	100

18 Correlation test was conducted to analyze the correlation between insomnia and quality of life in elderly. The results score from each domain both on WHOQOL-BREF and WHOQOL-OLD were transformed from categorical data into interval data in the form of logit unit values using Rasch modeling with the assistance of the Winstep program version 3.73. Furthermore, the interval data was tested for normality using Kolmogorov-Smirnov with the result that the logit unit value was not normally distributed. Based on the normality test, the correlation test conducted was the Spearman correlation test. This study discovered that there was a negative correlation between insomnia and quality of life using WHOQOL-BREF, but the correlation was weak (-0,386). In the physical domain, the correlation was moderate (-0,518). Negative correlation also occurred between insomnia and quality of life using WHOQOL-OLD with weak correlation (-0.302).

Table 5 The Spearman Correlation Test between Insomnia and WHOQOL-BREF and WHOQOL-OLD

Insomnia	WHOQOL-BREF					Total
	Physical	Psychological	Social	Environment		
Correlation Coefficient	-0.518	-0.159	-0.117	-0.106		-0.386
p-value	0.000	0.224	0.374	0.422		0.002

	WHOQOL-OLD						Total
	Sensory Ability	Autonomy	Past, present, and future activities	Participation	Death and Dying	Intimacy	
Correlation Coefficient	-0.257	-0.049	-0.019	-0.074	-0.226	0.015	-0.302
p-value	0.047	0.711	0.888	0.573	0.082	0.912	0.019

The limitation of this study was that the number of samples taken from each *Puskesmas* was uneven because there was one *Puskesmas* that did not allow the data collection process to be carried out. Another limitation was that the risk factors for insomnia had not been studied.

CONCLUSIONS AND RECOMMENDATIONS

It can be concluded that 22 out of 60 respondents (36.7%) had insomnia. A negative correlation was found between insomnia and the quality of life in elderly even though the correlation was weak.

We hoped that the community health centers (*Puskesmas*) could give early interventions to insomnia in elderly in order to prevent several consequences caused by insomnia and to manage good quality of life.

We also hoped that the Health Office could give education to the community about insomnia and how to prevent it in order to increase public awareness about ¹⁷ insomnia and its effect on quality of life.

REFERENCES

- Abd Allah E.S; Abdel-Aziz H.R; Abo El-Seoud A.R; 2014. Insomnia: Prevalence, risk factors, and its effect on quality of life among elderly in Zagazig City, Egypt. *Journal of Nursing Education and Practice*, 4(8): pp. 52–69.
- Chhantyal A; Rekha T. 2017. Factors Associated with insomnia among elderly of a Selected Community of Lalitpur. *Journal of Gerontology & Geriatric Research*, 6(2): pp. 1–7.
- El-Gilany A-H; Saleh N; Mohamed H; Elsayed E. 2017. Prevalence of insomnia and its associated factors among rural elderly: a community based study. *International Journal of Advanced Nursing Studies*, 6(1): p. 56.
- Kim W.J; Joo W.T; Baek J; Sohn S.Y; Namkoong K; Youm Y; et al. 2017. Factors associated with insomnia among the elderly in a Korean rural community. *Psychiatry Investigation*, 14(4): p. 400.
- Larson D; Brownstein A; Ishak W.W; Bagot K; Thomas S; Magakian N; et al. 2012. Quality of Life in Patients Suffering from Insomnia. *Journal of Pakistan Association of Dermatologists*, 9(10): pp. 13–26.
- Luo J; Zhu G; Zhao Q; Guo Q; Meng H; Hong Z; et al. 2013. Prevalence and risk factors of poor sleep quality among chinese elderly in an urban community: Results from the Shanghai aging study. *PLoS ONE*, 8(11): pp. 1–7.
- M. Morin C; Belleville G; Belanger L; Ivers H. 2010. Insomnia Severity Index: Psychometric properties with Chinese community-dwelling older people. *Journal of Advanced Nursing*, 66(10): pp. 2350–2359.
- Mattis J; Sehgal A. 2016. Circadian Rhythms, Sleep, and Disorders of Aging. *Trends in Endocrinology and Metabolism*, 27(4): pp. 192–203.
- Rodriguez J.C; Dzierzewski J.M; Alessi C.A. 2015. Sleep Problems in the Elderly. *Med Clin North Am*, 99(2): pp. 431–439.
- Roepke S.K; Ancoli-Israel S. 2010. Sleep Disorders in the Elderly. *Indian J Med Res*, 34(2): pp. 302–310.
- Sateia M.J; Buysse D.J, (eds). 2010. *Insomnia Diagnosis and Treatment*. London:

Informa Healthcare.

- Schmidt, R. E; Renaud, O; Van Der Linden, M. 2012 Nocturnal Regrets and Insomnia in Elderly People. *The International Journal of Aging and Human Development*, 73(4): pp. 371–393.
- Schober P; Schwarte L.A.. 2018. Correlation coefficients: Appropriate use and interpretation. *Anesthesia and Analgesia*, 126(5): pp. 1763–1768.
- Suzuki K; Miyamoto M; Hirata K. 2017. Sleep disorders in the elderly: Diagnosis and management. *Journal of General and Family Medicine*, 18(2): pp. 61–71.
- Tel, H. 2013. Sleep quality and quality of life among the elderly people. *Neurology Psychiatry and Brain Research*, 19(1): pp. 48–52.
- Tsou, M.T. 2013. Prevalence and risk factors for insomnia in community-dwelling elderly in northern Taiwan. *Journal of Clinical Gerontology and Geriatrics*, 4(3): pp. 75–79.
- World Health Organization. 1996. *WHOQOL-BREF, Introduction, administration, scoring and generic version of the assessment*. Geneva: Programme on Mental Health WHO.
- World Health Organization. 2006. *WHOQOL-OLD manual*. Copenhagen: WHO-European Office.

Insomnia and Quality of Life in Elderly: WHOQOL-BREF and WHOQOL-OLD Indonesian Version

ORIGINALITY REPORT

14%

SIMILARITY INDEX

7%

INTERNET SOURCES

10%

PUBLICATIONS

13%

STUDENT PAPERS

PRIMARY SOURCES

1

Submitted to West Texas A&M University

Student Paper

1%

2

Submitted to University of Arizona

Student Paper

1%

3

Submitted to Florida State University

Student Paper

1%

4

"Advances in Human Factors and Ergonomics in Healthcare", Springer Science and Business Media LLC, 2017

Publication

1%

5

link.springer.com

Internet Source

1%

6

Submitted to Kennesaw State University

Student Paper

1%

7

mpra.ub.uni-muenchen.de

Internet Source

1%

8

Supaporn Sudnongbua, Steven LaGrow, Julie Boddy. "Feelings of Abandonment and Quality

1%

of Life Among Older Persons in Rural Northeast Thailand", Journal of Cross-Cultural Gerontology, 2010

Publication

9

Submitted to University of Southampton

Student Paper

1%

10

N. Saddki, M.M. Noor, T.H. Norbanee, M.A. Rusli, Z. Norzila, S. Zaharah, A. Sarimah, M. Norsarwany, A.R. Asrenee, Z.A. Zarina. "Validity and reliability of the Malay version of WHOQOL-HIV BREF in patients with HIV infection", AIDS Care, 2009

Publication

1%

11

Submitted to University of South Africa

Student Paper

1%

12

Submitted to West Coast University

Student Paper

<1%

13

cphs.healthrepository.org

Internet Source

<1%

14

Ines Conrad, Herbert Matschinger, Steffi Riedel-Heller, Carolin von Gottberg, Reinhold Kilian. "The psychometric properties of the German version of the WHOQOL-OLD in the German population aged 60 and older", Health and Quality of Life Outcomes, 2014

Publication

<1%

- | | | |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 15 | Pan Ay-Woan, Chan PeiYing Sarah, Chung LyInn, Chen Tsyrr-Jang, Hsiung Ping-Chuan. "Quality of Life in Depression: Predictive Models", Quality of Life Research, 2006
Publication | <1 % |
| 16 | Muhammad Azwan Azri, Akehsan Dahlan, Mohamad Ghazali Masuri, Khairil Anuar Md Isa. "Sleep Quality among Older Persons in Institutions", Procedia - Social and Behavioral Sciences, 2016
Publication | <1 % |
| 17 | www.sciedu.ca
Internet Source | <1 % |
| 18 | pericles.pericles-prod.literatumonline.com
Internet Source | <1 % |
| 19 | Submitted to University of Bath
Student Paper | <1 % |
| 20 | Submitted to University of Hong Kong
Student Paper | <1 % |
| 21 | mro.massey.ac.nz
Internet Source | <1 % |
| 22 | Lai, J. -N., H. -J. Chen, C. -M. Chen, P. -C. Chen, and J. -D. Wang. "Quality of life and climacteric complaints amongst women seeking medical advice in Taiwan: assessment using the | <1 % |

WHOQOL-BREF questionnaire", Climacteric, 2006.

Publication

-
- | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <div style="background-color: #000080; color: white; padding: 5px; display: inline-block; width: 40px; text-align: center;">23</div> | <p>Abdel-Hady El-Gilany, Ghada O. Elkhawaga, Bernadet B. Sarraf. "Depression and its associated factors among elderly: A community-based study in Egypt", Archives of Gerontology and Geriatrics, 2018</p> <p>Publication</p> | <p><1 %</p> |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
-
- | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------|
| <div style="background-color: #000080; color: white; padding: 5px; display: inline-block; width: 40px; text-align: center;">24</div> | <p>arizona.openrepository.com</p> <p>Internet Source</p> | <p><1 %</p> |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------|
-
- | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------|
| <div style="background-color: #ff0000; color: white; padding: 5px; display: inline-block; width: 40px; text-align: center;">25</div> | <p>www.sbp-journal.com</p> <p>Internet Source</p> | <p><1 %</p> |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------|
-
- | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------|
| <div style="background-color: #ff00ff; color: white; padding: 5px; display: inline-block; width: 40px; text-align: center;">26</div> | <p>Submitted to Udayana University</p> <p>Student Paper</p> | <p><1 %</p> |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------|
-
- | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------|
| <div style="background-color: #8000ff; color: white; padding: 5px; display: inline-block; width: 40px; text-align: center;">27</div> | <p>Submitted to Drexel University</p> <p>Student Paper</p> | <p><1 %</p> |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------|
-
- | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <div style="background-color: #008080; color: white; padding: 5px; display: inline-block; width: 40px; text-align: center;">28</div> | <p>D. F. Santaella, C. R. S. Devesa, M. R. Rojo, M. B. P. Amato, L. F. Drager, K. R. Casali, N. Montano, G. Lorenzi-Filho. "Yoga respiratory training improves respiratory function and cardiac sympathovagal balance in elderly subjects: a randomised controlled trial", BMJ Open, 2011</p> <p>Publication</p> | <p><1 %</p> |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
-
- | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--|
| <div style="background-color: #008000; color: white; padding: 5px; display: inline-block; width: 40px; text-align: center;">29</div> | <p>Submitted to Utah Education Network</p> | |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--|

<1 %

30

Graeme Hawthorne, Helen Herrman, Barbara Murphy. "Interpreting the WHOQOL-Brèf: Preliminary Population Norms and Effect Sizes", Social Indicators Research, 2006

Publication

<1 %

31

Eva Dragomirecká. "Demographic and psychosocial correlates of quality of life in the elderly from a cross-cultural perspective", Clinical Psychology & Psychotherapy, 05/2008

Publication

<1 %

Exclude quotes On

Exclude matches Off

Exclude bibliography On