ORIGINAL ARTICLE

A CROSS SECTIONAL STUDY QUALITY OF LIFE PEOPLE LIVING WITH HIV&AIDS: EMPHASIZE IN ANTHROPOMETRIC VALUE

Olivia Cicilia Walewangko[1], YanriWijayanti Subronto[2], Neneng Ratnasari[3]

1. *Division of Internal Medicine Faculty of Medicine Universitas Gadjah Mada / Dr. Sardjito General Hospital Yogyakarta*
2. *Sub Division of Tropical and Infectious, Division of Internal Medicine Faculty of Medicine Universitas Gadjah Mada / Dr. Sardjito General Hospital Yogyakarta*
3. *Sub Division of Gastro EnteroHepatology, Division of Internal Medicine Faculty of Medicine Universitas Gadjah Mada / Dr. Sardjito General Hospital*

ABSTRACT

***Background**. Nutritional problem has a significant role factor in determining health, mortality and quality of life of people with HIV and AIDS (HIV&AIDS). Therefore, it is very important to provide the nutritional assessment, nutritional management, counseling and education to upgrade the quality of life of people with HIV&AIDS.*

***Objective**. This study was designed to analyze correlation between anthropometric measurements with quality of life of people with HIV&AIDS.*

***Method**. The design was designed in a cross sectional fashion. Subjects included outpatient HIV&AIDS in Dr. Sardjito General Hospital Yogyakarta from November 2009 to January 2010. Subjects who met the inclusion criteria were examined for anthropometric measurement and asked to fill WHOQOL-bref questioner.*

***Result**. From eligible 53 subjects, majority of cases were man (73.6%), single (62.3%) and live alone (58.5%), last education was high school (41.5%) and employed (73.6%). Mean of ages was 33 years old, weight 53.6710.3kg, height 161.287.68cm, BMI 20.57 3.48 Kg/m^2, MUAC 24.40 3.23 cm, waist circumference 76.17 8.10 cm, hip circumference 87.04 8.03 cm , ST 11.17 8.10 mm. Mean score of total WHOQOL-bref was 75.68 10.3, Domain 1 (physics) 21.32 3.07, Domain 2 (psychology) 19.75 3.62, Domain 3 (social) 10.04 1.87, and Domain 4 (environment) 24.75 4.58. There was a very weak and insignificant correlation between anthropometric measurements with quality of life.*

***Conclusion**. No significant correlation found between nutritional statuses which is measured by the anthropometric value with the quality of life in people with HIV&AIDS.*

Keywords: HIV, nutrition, anthropometric, QOL

INTRODUCTION

The quality of life of people living in HIV&AIDS recently has been studied intensively. This study emphasizes two things, the assessment of patients and the predictor determination of quality of life. HIV world distribution describes a complex connection involvement of food, HIV infection and nutrition status. In 2005 it is estimated that almost 38.6 million HIV infected person and 2.8 million died for such reason. Meanwhile, since 1981 more than 25 million people have died because of AIDS. HIV infected people increase 3-4 times since 1990 until 2005, andstill tend to increase. Young aged person (between 15-24 year) is half of the entire new HIV populations in the world and around 6000 people are infected every day[1].

It was known that bad nutrition status harmed the function and development of immune system[2]. Effect of malnutrition in immune system may demote T-CD4 cell, depress hypersensitivity reactionof slow type and causes abnormal response of B cell[3]. Bad nutrition status in HIV&AIDS can be caused by several factors such as inadequate intake and nutrition absorption, metabolic change, hypermetabolism or federation from all, change of gastrointestinal tract with interaction between medicine and nutrition[4].

The first step to overcome the problem is handling nutrition status evaluation that must be done as soon as possible. A complete nutrition assessment must include several parameters like anthropometry (measurement of height, weight, waist and hip circumference, fat thickness, arm circumference), biochemistry, clinical, diet and social-economic[5]. Nutrition status assessment, nutrition management, counseling and education are very useful for quality and live extension of HIV&AIDS[1].

A quality of life of somebody is a perception towards self existence in culture context and where does he live in the connection with a purpose to, hope, standard, and the life importance[6]. A study has studied the predictor factors which determine good or bad quality of life[7]. Instrument that can be used to evaluate quality of life status is a questionnaire from whoqol-bref containing 26 questions that include 4 domains that include physical well-being, psychologies, social function and environment. Quality determination from these factors can help to decide best method in therapy and sufferer handling of HIV&AIDS[8]. Even though there are previous studies on anthropometry measurement, up to now there is no similar study done in the region of Yogyakarta.

AIM AND METHOD

This is a cross sectional study aiming to find the correlation between anthropometry value with quality of life of people living with HIV&AIDS. The study was done at Edelweiss ambulatory clinic Dr. Sardjito general hospital, Yogyakarta. This began on November 2009 until the total sample was fulfilled in 2010. Target populations were persons who suffered HIV&AIDS in Special Province of Yogyakarta. Accessible populations were persons who came to Edelweiss clinic who aged 18-59 year, were newly diagnosed of HIV&AIDS, have not yet got anti-retro viral (ARV) therapy, or were under treatment that less than 3 months, were not illiterate, and approved and signed the informed consent. Exclusion criteria were pregnant woman, under steroid treatment, did not have particular diseases (diabetes mellitus, liver cirrhosis, kidney disease, physical defect, personality disorder), and refused to be measured.

Watchfulness result data is presented in the form of average and standard branch. Correlation between anthropometry size averages with life quality was analyzed using Pearson correlation test when data were in normal distribution and Spearman correlation test when data were not in normal distribution.

RESULTS

The study started from November 2009 up to January 2010. Total subjects that met the criteria were 53 persons. Kolmogorov-Smirnov test was done to detect whether the datawere normally distributed or not. The result showed that age was the only data that did not distribute normally ($p < 0.05$) with median age of 33 (21-52) year. From 53 subjects, 73.6% men and 62.3% women were followed successive by subject that get married 30.2% and divorce 7.5%. Most of cases completed senior high school (41.5%). A large part of subject lived without family (58.5%),some still mobile and active (79.2%) and worked as an entrepreneur (54.7%). Risk factor of HIV infection was unsafe sex (32.1%) and 13.2% had risk factors more than one. Narcotics injection userswas 5.7% and all consumed heroin. Most opportunist CI infection was candidas (45.3%) and federation infection (17.0%). From 67.9% subject presented in clinical stage, two (22.6%) were in stage III of the disease. Table 1 displayed characteristics data of all subjects.

Anthropometry measurement resulted in mean SD in body weight of 53.6710.3 kg, height of 161.287.68 cm, BMI of 20.573.48 kg/m2, UAMC of 24.403.23 cm, waist circumference of 76.178.10 cm, hip circumference of 87.048.03 cm, and ST of 11.178.10 mm. Subject that has normal BMI was 58.5%, underweight 26.4% and overweight 15.1%. One subject (1.9%) had UAMC less than 18.5 cm. Hip to waist ratio without reference to sex was categorized into bad (24.5%) and good (75.5%) nutrition. Skin fold thickness in man (14 people) and woman (5 people) showed in the risk to have disease related to malnutrition.

Biochemistry investigation resulted mean SD in total protein of 7.501.51, serum albumin of 2.790.87, Hb of 11.492.17, leucocytes of 5.22.84, thrombocytes of 251137, limphocytes of 23.94 12.63, GOT of 22.4030.71, GPT of 26.4045.34 and total CD4 count of 120.4120.

Table 1. Characteristics basic subject of HIV&AIDSpatient

N = 53				N = 53			
Variable	**n (%)**	**mean ±SD**	**CI 95%**	**Variable**	**n (%)**	**mean±SD**	**CI 95%**
Age (years)		33 (21-52)	32,76-37,09	**Risk factor**			
sex				1. IDU	3 (5.7)		
1. man	39 (73.6)			2. Homosexual	7 (13.2)		
2. woman	14 (26.4)			3. unsafe sex	17 (32.1)		
Marital status				4. tattoo	3 (5.7)		
1. single	33(62.3)			5. PSK	7 (13.2)		
2. married	16(30.2)			6. blood transfusion	-		
3. divorce	4 (7.5)			7. MTCT	-		
Education				8. operation	-		
1. no schooling	2 (3.8)			9. unknown	3 (5.7)		
2. SD	14 (26.4)			10 nothing	-		
3. SMP	11 (20.8)			11. from husband	6 (11.3)		
4. SMA	22 (41.5)			12. > 1	7 (13.2)		
5. University	3 (5.7)			**Type of IDU**:			
6. Post Graduate	-			1. Heroin	3 (5.7)		
7. etc	1 (1.9)			2. Others	-		
Living alone				**Opportunistic infection**			
1. Yes	31 (58.5)			1. TBC	7 (13.2)		
2. No	22 (41.5)			2. PCP	-		
Activity				3. CMV	-		
1. No active	9 (17.0)			4. Toxoplasmosis	-		
2. Active	42 (79.2)			5. Candidacies	24 (45.3)		
3. Very active	2 (3.8)			6. Skin Disease	6 (11.3)		
Employment				7. HSV	1 (1.9)		
1. unemployed	14 (26.4)			8. > 1	9 (17.0)		
2. PNS	-			**Stage of disease**			
3. private	3 (5.7)			Stage I	3 (5.7)		
4. Wiraswasta	29 (54.7)			Stage II	36 (67.9)		
5. farmer	1 (1.9)			Stage III	12 (22.6)		
6. student	-			Stage IV	2 (3.8)		
7. Labor	3 (5.7)						
8. driver	-						
9. etc	3 (5.7)						

Subject characteristics based on QoL mean SD in total score was 75.6810.3, domain 1 (physical aspect) 21.323.07, domain II (psychological aspect) 19.753.62, domain III (social aspect) 10.04 1.87 and domain IV (environment aspect) 24.75 4.58. Compare mean test with one way ANOVA was used to determine mean SD of QoL towards BMI. MeanSD of QoL total in category overweight was 73.12 9.45, normal weight 77.2310.68 and underweight 73.71 9.98 (p= 0.436). The highest meanSD of QoL domain I, II and III were in normal BMI category (p= 0.849, 0.376 and 0.191). In domain IV the highestscore was in overweight category (p= 0.314).

Compare mean test with independent t test was used to analyze meanSD of QoL towards MUAC. The highest total QoL score was found in MUAC >18.5 cm (p= 0.764). Compare mean test with independent t test was used to determine meanSD of QoL towards hip to waist ratio. The highest meanSD of total QoL score was found in good category (p= 0.764).

To determine the correlation between any anthropometry parameter with QoLtotal and any domain we used Pearson correlation test. There was a very weak correlation between BMI and QoL total score (r= 0.027), BMI and domain III (r= 0.110), and BMI and domain IV (r= 0.138). There was a weak correlation between MUAC with QoL total score and all domains. The strongest correlation was found between MUAC with domain IV (r= 0.232), but this was statistically insignificant. There was a weak positive correlation between ST and QoL total score, domain III and domain IV with r value 0.065, 0.209 and 0.169 and all of them were not statistically significant. The correlation between hip to waist ratio with QoL and also QOL in every domain were weak (table 2).

Table 2. The correlation between anthropometry value and qol

QOL		TOTAL	DOMAIN I	DOMAIN II	DOMAIN III	DOMAIN IV
anthropometry						
BMI	r	0.027	- 0.053	- 0.146	0.110	0.138
	p	0.849	0.707	0.289	0.433	0.325
UAMC	r	0.101	0.003	0.077	0.149	0.232
	p	0.472	0.981	0.582	0.287	0.095
ST	r	0.065	- 0.090	- 0.070	0.209	0.169
	p	0.649	0.527	0.623	0.138	0.232
P-P Ratio	r	0.278	0.241	0.161	0.113	0.285
	p	0.043*	0.083	0.250	0.419	0.039*

DISSCUSSION

The analysis described average age of 33 with minimum age of 21 year old and maximum age of 52 year old. The highest frequency of HIV is on age group 31-40 (41.5%) followed by age group 20-30 (30.2%), 41-50 (26.4%) and 51-60 (1.9%) who has good physical activity and mobile (79.2%). Majority of subjects were man (73.6%), single (62.3%) and living alone (5.85%), the rest were live with family or close relative or friend (41.5%). The education level was mostly senior high school (41.5%) and elementary (26.4%). The employed group was more frequent than the unemployed (73.6% vs. 26.4%).

The highest risk factor of HIV infection was unsafe sex (32.1%), most of them was a commercial sex workers. This frequency was followed by homosexual. Some cases had more than one risk factor (13.2%). Other risk factors incuded narcotics injection usage and tattoo. Six of 14 women admitted to have HIV infection from their husbands. When they visited the Edelweiss clinic most of them suffered from opportunistic infection, like oral and urogenital candidiasis (45.3%), lung tuberculosis (13.2%) and papular pruritic eruption (ppe) (11.3%) which usually appeared in the stage II of the disease. Only 1 subject (1.9%) suffered from herpes simplex virus (HSV) and as many as 17.0% has more than 1 oportunistic infection. Using 2006 WHO clinical stages for adolescent and adult HIV, there were 5.7% of stage I, 67.9% of stage II, 22.6% of stage III, and 3.8% of stage IV. Majority of the cases were in the early clinical stages and had a good condition.

The correlation between anthropometry size and QoL scores was weak and was not statistically significant. The cross sectional designed only required one measurement in every subject. Thus the anthropometry value and QoL change could not be determined. We suggest to continue the research prospectively. Other reason of insignificance was the homogeneous of the subjects. The anthropometry of the subjects might not changed. Therefore, the anthropometry size might not influence the quality of life of people living with HIV&AIDS.

Conclusion: Anthropometry value in our study population did not correlate with the quality of life in people living with HIV&AIDS. However, we suggested that givingcounseling and education to cases are still important. They need to know how to keep nutrition status and the QoL. This study needs to be continued in a prospective cohort design.

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