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HIV/AIDS Stigma of People Living in Poland in Relation to Their Satisfaction With Life and Acceptance of Illness in the Context of Socio-Demographic Variables

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ABSTRACT

The particular character of HIV/AIDS means that this illness causes numerous complications, either medical, legal or social. HIV infection exposes its carriers to frequent acts of intolerance or stigma by the healthy part of the population.

METHODS

A quantitative study was conducted on 70 people living with HIV/AIDS in Poland.

RESULTS

The results obtained in the HIV Sigma Scale fell mainly within the range: 130-140 points. Acceptance of illness remained at the level of 20 points. Socio-living conditions affected all the measurements which were analysed. The time of virus diagnosis was a factor influencing the values of the scales which were analysed. Age showed a significant correlation with the illness acceptance level (p=0,0172).*

CONCLUSIONS

Respondents showed high stigma levels, while the assessment of their satisfaction with life was low. Respondents accepted their illness to a various extent. Socio-living conditions and the time of virus diagnosis significantly affect all the measurements which were analysed. Age showed a significant correlation with the illness acceptance level.

KEYWORDS : HIV/AIDS Stigma, satisfaction with life, acceptance of illness

INTRODUCTION

In literature on the subject, it is emphasised that HIV infections or AIDS incidences are frequently associated with the behaviour of marginalised groups, and all people with HIV/AIDS are perceived as belonging to these marginalised groups, while some of them may be stigmatised in a way they have not experienced before (Somma & Bond, 2006). Consequently, a specific vicious circle appears, since HIV/AIDS also intensifies the stigma of individuals and groups, which have already been marginalised, at the same time increasing susceptibility to HIV/AIDS, and this – in turn – contributes to their later stigmatisation and marginalisation (Rüsch, Angermeyer & Corrigan, 2005).

Negative social consequences that occur upon the discovery and disclosure of HIV infection perfectly fit in with the Goffman's stigma theory (Goffman, 1963). The said theory clarifies mechanisms underlying the negative stigmas or self-imposed stigmas of those members of society who break fundamental social, moral and religious standards through their behaviour of lifestyle (Goffman, 1963). Aggleton (Aggleton, 2002) believes that stigma may be perceived as one of the strongest social means used to marginalise, exclude or demonstrate power towards people who have undesirable traits, as society's response to the fear they experience, in particular when it is neither avoidable nor removable. According to Alonzo and Reynolds (Alonzo & Reynolds, 1995), stigma is a painful social etiquette which radically affects the way people perceive themselves and the way they are perceived by others. Whereas, in 2001 the stigma phenomenon was described by Link and Phelan (Link & Phelan, 2011) in their work entitled *Conceptualizing stigma*, in which they emphasised that stigma can be talked about when the following co-related elements exist: etiquetting, stereotypisation, separation of "us" from "them", on the basis of created stereotypes and the loss of social status and discrimination.

The sensed stigma or "anticipated" discrimination has a great influence on people with HIV/AIDS (Ochako et al., 2011). Disclosing that somebody is seropositive involves much more anxiety than only fear and uncertainty as to how others will respond (Wright et al., 2007). It significantly affects the assessment of the quality of life of such people.

The very concept of quality and satisfaction with life are very useful for processes of strengthening health and treatment, holistic care and the rehabilitation process (Van Damme-Ostapowicz et al., 2012). Researchers analysing the quality and satisfaction with life underline the necessity of performing such an assessment, taking into consideration the somatic condition of patients, their well-being, social relations and physical fitness (Raphael, 2001). Health condition is one of the most fundamental factors of good quality and satisfaction with life (Addington-Hall & Kalra, 2001), while the level of acceptance of illness significantly affects the adaptation to the limitations imposed by the disease (Al Robaee & Alzolibani, 2011).

According to Al Robaee (Al Robaee &, Alzolibani, 2011), the level of acceptance of illness exerts a great influence on the adaptation to limitations imposed by the disease, dependence on others and self-esteem. The said factors affect the subjective feeling of the quality and satisfaction with life and determine the level of the patient's own activity (Al Robaee & Alzolibani 2011). Each disease evokes negative emotions,

difficulties and imposes limitations or changes in performing social functions (Kułak & Kondzior 2011). In professional literature, it is emphasised that the higher the level of acceptance of illness, the better the adaptation and the lower the accumulation of negative feelings in patients (Das & Ravindran, 2010).

The results gathered during surveys performed in Poland and abroad among people living with HIV/AIDS, giving evidence on stigmatisation, discrimination and low self-esteem involving the quality of life constitute the basis for making further, more thorough research in this field. They will certainly intensify educational activities, which will help to limit the disparity between people living with HIV/AIDS in Poland and abroad.

With regard to the above, it seems advisable to conduct works enabling the assessment of the level of stigmatisation of people living with HIV/AIDS, the evaluation of the level of satisfaction with life and acceptance of illness, as well as the discovery of a relationship between the parameters which have been studied.

METHODS

STUDY SETTING AND DESIGN

Project 123-10623P was financed by the Minister of Science and Higher Education in Poland and performed at the Faculty of Health Science of the Medical University in Białystok.

The survey was performed during the period from 2011 to 2013, among people with HIV/AIDS, members of Association of Volunteers towards AIDS in Warsaw, Poland. In order to achieve the target goals, the method of diagnostic survey was applied, with the use of standardised scales: Berger HIV Stigma Scale (Berger, Ferrans & Lashley, 2001), the Satisfaction With Life Scale and Acceptance of Illness Scale. Moreover, the study used a patient survey questionnaire prepared especially for this research, which was not validated. The first part of the survey questionnaire contained questions on the demographic data of the respondents and the second part included HIV-related characteristic questions, regarding the state of the patient's health.

The introduction of the survey questionnaire contained: information on the purpose of the study, the voluntary character and anonymity of responses, the possibility of withdrawal from the study at any moment, regardless of the stage of the study, and information concerning the method of filling in questionnaires and scales. The study objectives and methods were also explained to each of the respondents before the study was commenced.

QUANTITATIVE RESEARCH METHODS

In order to achieve the target goals, the method of diagnostic survey was applied, with the use of the following standardised scales:

- Berger HIV Stigma Scale, covering 40 issues. Respondents gave their answers with the use of the 4-grade scale: 1 – "totally disagree", 2 – "disagree", 3 – "agree", 4 – "totally agree". If a survey participant chooses an answer between two options (e.g. between "totally disagree" and "disagree"), an average value between these two options will be used. Two items are counted the other way round: items 8 and 21. Upon reversing these two options, each result of the scale or subscale is calculated by adding the value of measured item attributed to the scale or subscale. In the total HIV Stigma Scale, the scores may fall within 40 and 160 points, whereat the value "40" means no feeling of stigma, and "160" - the maximum stress attributed to illness.

In the individualised subscale of stigma, the results may vary between 18 and 72 points. In the subscale of disclosure, the results may range within 10 and 40 points. In the subscale of the negative image of oneself, the results fall within 13 and 52 points. In the subscale of social attitudes, the results may vary between 20 and 80 points.

- a standardized Satisfaction With Life Scale (SWLS) is a measure of life satisfaction.

Life satisfaction is one factor in the more general construction of subjective well-being. Life satisfaction can be assessed specific to a particular domain of life (e.g. work, family) or globally. The SWLS is a global measure of life satisfaction. The SWLS consists of 5 items that are completed by the individual whose life satisfaction is being measured. A respondent "agrees" or "disagrees" with statements using a 7-point gradation (1-7) of responses ("totally agree", "agree", "rather agree", "neither agree, nor disagree", "rather disagree", "disagree", "totally disagree"). The score of responses is a positive one, which means that the higher score is, the higher satisfaction with life is.

The scores for answers have a positive value, which means that that the higher score is, the higher satisfaction with life is.

- AIS – standardized Acceptance of Illness Scale. The Acceptance of Illness Scale (AIS)

It consists of eight questions describing the consequences of poor health condition, i.e. the questions involving the limitations imposed by the illness, lack of independence, the feeling of being dependent on others and reduced self-esteem. Each question has a 5-grade scale of answers and respondents described their current health condition marking one suitable number: 1 – "strongly agree", 2 – "agree", 3 – "don't know", 4 – "disagree", 5 – "strongly disagree". A strong agreement means poor adaptation to the disease, while the lack of agreement – acceptance of the disease. The level of acceptance of the current health condition is measured by the sum of all points, within the range of 8 to 40 points. Three point ranges were created to define the level of acceptance. A score of 8 to 18 points corresponds to no acceptance of the disease, 19 to 29 points – moderate acceptance, and 30 to 40 points – good acceptance.

The scores for answers have a positive value, which means that that the higher score is, the higher the acceptance of the illness is.

STATISTICAL ANALYSIS

The available data were presented in the form of descriptive statistics.

Statistical elaboration was performed using the STATISTICA software in the form of the following descriptive statistics: arithmetic mean, median, maximum and minimum value, standard deviation (*s*), centile 25 and 75. For the scales AIS and SWLS, the distribution of responses following the categorization of score values to the adjective scale was presented. The distribution of answers was presented in the form of histograms. The value of testing probability *p* was given, providing for the determination of statistical a significance level and confidence interval.

Correlations between the scales used in the survey were examined, as well as the correlation between age and contemplated aspects of the quality of life, acceptance of illness and the feeling of stigma. The Spearman's rank correlation coefficient was used to quantify the dependence. The Spearman's rank correlation coefficient is used to examine the dependency between two numerical traits and serves as a coefficient that takes values within the range from - 1 to 1. It is resistant to outliers and "discovers" dependences of a monotonic nature (not only a linear, but also classic coefficient of linear correlation). The absolute value of the coefficient shows the strength of the correlation, while the sign –its direction. Consequently, correlation coefficients 0.9 or –0.9 correspond to the same (very high strength correlation), though conclusions drawn on their basis will be just the opposite – in the first case, the increasing values of the first trait correspond to a similar increase of the other, while in the latter case – they decrease. Some sources assume the following adjective scale relating to correlation strength:

- $|R| < 0,3$ – no correlation;
- $0,3 \leq |R| < 0,5$ –weak correlation;
- $0,5 \leq |R| < 0,7$ – average correlation;
- $0,7 \leq |R| < 0,9$ – strong correlation;
- $0,9 \leq |R| < 1$ – very strong correlation;
- $|R| = 1$ – ideal correlation.

The results were supplemented by the results of the correlation coefficient (*p*) vailidity test, which made it possible to evaluate whether the dependence shown in the surveyed population reflects more general relations predominating in the whole population or whether it is a mere coincidence.

The HIV Sigma Scale was assessed in terms of its internal compliance with the use of α-Cronbacha coefficient. The effect of sexes on the level of SWLS, AIS and values determined with the use of the HIV Stigma Scale Questionnaire were evaluated with the application of the Mann-Whitney test. The influence of socio-living conditions was evaluated by the Kruskal-Wallis test. In the case of the SWLS and AIS scales, the difference of validity, divided into men and women was assessed with the use of the chi-squared test of independence.

ETHICAL CONSIDERATIONS

The study was approved by the Ethical Committee of the Medical University in Białystok (approval no. R-I-002/243/2012). To obtain the approval of the Ethical Committee of the Medical University in Białystok, permission was obtained from the Head of the Association of Volunteers towards AIDS in Poland where the study was completed.

Individual interviews were only started after the purpose of the study had been clearly explained to the participant and a consent form had been first read and signed.

RESULTS

The survey was conducted during the period from 2011 to 2013 among people living with HIV/AIDS, who were members of Association of Volunteers towards AIDS in Poland.

The survey covered 70 respondents, including 40% women and 60% men. The majority of respondents were 40-50 years old (every third respondent). The youngest group of patients –below 25 years old and the oldest one – over 60 years old constituted the minority. More than half of the respondents lived in big cities, Every third person lived in a middle-sized town. A small percentage of patients were from villages. Half of the respondents had secondary education, every fourth – vocational education and every tenth – higher education.

The vast majority of those surveyed did not live in a formalised relationship, while less than one out of ten still had a formal spouse.

Half of the infected people lived alone, every third respondent lived with a partner and more or less every seventh lived with a family. The vast majority of patients did not have children.

The basic source of living for the majority of respondents was a paid job (every third person), disability allowance or old-age pension (nearly 40% respondents). Every fifth patient did not work or worked casually/ seasonally.

More than half of the surveyed evaluated their socio-living conditions as average. Every fourth respondent assessed them as good, each sixth as poor.

One out of ten people were aware of the disease for less than two years. The percentage of patients diagnosed during the last five years and more than five years was practically the same.

The number of CD4 cells between 200 and 500 was reported by 99% of the respondents.

The vast majority of patients took the medicines indicated by a specialist. Every fifth patient did not take any medicines.

The overall access of patients to medical care was high. More than half of all respondents declared it as very good and 1/3 as good.

The patients mentioned their friends or acquaintances as the persons who supported them emotionally during their illness. Families were not the main source of support, since the majority of respondents lived alone.

HIV STIGMA SCALE

The distribution of point values for the HIV Stigma Scale and its constituents has been presented in the form of descriptive statistics (Table 1).

Table 1. The HIV Stigma Scale and its constituents

HIV SS and its constituents	$\bar{x}$	Me	s	c_{25}	c_{75}	min	max
HIV Stigma Scale (total score)	125,7	130,5	16,6	117	138	85	148
Personalized stigma subscale	55,0	58	8,9	50	61	31	68
Disclosure subscale	34,9	36	3,4	34	37	25	39
Negative self-image subscale	38,3	40	6,8	34	43	20	47
Public attitudes subscale	62,9	66	8,8	58	69	41	76

The average level of the HIV Sigma Scale amounts to 125.7 points, the minimum value for this scale amounts to 85, the maximum being 148, with a standard deviation of 16.6, *Me* amounts to 130.5, c_{25} =117, c_{75} =138. The average level of the *Personalized stigma subscale* amounts to 55.0 points, the minimum value for this scale amounts to 31, the maximum being 68, with a standard deviation of 8.9, *Me* amounts to 58,0, c_{25} =50, c_{75} =61. The average level of the *Disclosure subscale* constituent amounts to 34.9 points, the minimum value for this scale amounts to 25, the maximum being 39, with a standard deviation of 3.4, *Me* amounts to 36.0, c_{25} =34, c_{75} =37.

The average level of the *Negative self-image subscale* constituent amounts to 38.3 points, the minimum value for this scale amounts to 20, the maximum being 47, with a standard deviation of 6.8, *Me* amounted to 40,0, c_{25} =34, c_{75} =43. The average level of the *Public attitudes subscale* constituent amounts to 62,9 points, the minimum value for this scale amounts to 41, the maximum being 76, with a standard deviation of 8.8, *Me* amounts to 66.0, c_{25} =58, c_{75} =69.

Moreover, the percentage share of the results obtained, which had been distributed into 10-point intervals, was assessed. A distribution with regard to the whole possible scope of results was calculated that covers the interval between 40 and 160 points, where the value 40 means no feeling of stigma and 160 – the maximum level of the burden of the disease.

The surveyed population has quite high, unfavourable scores, ranging from 130 to140 points. Since 6% of surveyed respondents were classified within the range of 80 to 90 points, 7% - within the range of 90 to 100 points, 4% of respondents fell within the range from 100 to 110 points, 11% of surveyed respondents were classified within the range from 110 to120 points, 21% - within the range from 120 to130 points, 40% - within the range from 130 to140 points, 10% of respondents fell within the range from 140 to150 points.

SATISFACTION WITH LIFE SCALE (SWLS)

The average point scale value amounted to 18 points, which may be described as a low score, taking into account that the whole range of possible results is between 5 and 35 points. Every fourth person had a score higher than 20 pts, while every fourth had a score below 15 pts. The standard deviation amounted to 4.8, *Me* amounted to 17.0, c_{25} =15,0, c_{75} =20.0, the minimum value was 10, the maximum - 31 (Table 2).

Table 2. Evaluation of the respondents' satisfaction with life

Quality of life evaluation	$\bar{x}$	Me	s	c_{25}	c_{75}	min	max
SWLS	17,7	17	4,8	15	20	10	31

Having categorised the SWLS, an adjective assessment of the quality of life was obtained. It turned out that 18.6% of respondents were "highly unsatisfied" with their life, 55.7% were "quite unsatisfied", "neutral" and "very satisfied" were 5.7% respondents, "quite satisfied" were 12.9% of those surveyed, "quite satisfied"- were 1.4 % respondents.

ACCEPTANCE OF ILLNESS SCALE (AIS).

Table 3 presents the distribution of the AIS point scale value. The average for all those surveyed amounted to about 20 points. Every fourth person had an AIS value lower than 12 points, whereas every fourth reported AIS over 23 points.

Table 3. Distribution of AIS scores described using selected descriptive statistics.

Acceptance of illness scale	$\bar{x}$	Me	S	c_{25}	c_{75}	min	max
AIS	18,9	18	8,5	12	23	8	44

The standard deviation amounted to 8.5, *Me* amounted to 18.0, the minimum value was 8, the maximum value was 44.

Having categorised the AIS, the patients were classified into three sep-

arate groups. More than half (54.3%) of the surveyed did not accept their illness, every third (32.9%) accepted it to a moderate extent, while every eighth (12.9%) person declared a high level of acceptance.

CORRELATION BETWEEN SELECTED SCALES (AIS)

This part of the paper is focused on a possible correlation occurring between scales.

SATISFACTION WITH LIFE SCALE AND ACCEPTANCE OF ILLNESS SCALE

The correlation coefficient between SWLS and AIS is relatively high: $R = 0.50$. The positive sign of the coefficient means that the direction of dependence is logical – the higher the acceptance of the illness is, the higher quality of life is. The correlation is of high significance in statistical terms ($p = 0{,}0000$***), thus, the results obtained may be generalised to cover the whole population of people infected with AIDS.

HIV STIGMA SCALE AND ACCEPTANCE OF ILLNESS SCALE AND SATISFACTION WITH LIFE SCALE

The Spearman's rank correlation coefficient was obtained between HIV Stigma Scale and its constituents and AIS and SWLS. All correlations proved to be statistically important, while the level of illness acceptance is more related to HIV Stigma Scale. Here, the correlations are quite strong, the R values amount to –0,71, while the weakest correlation is $R = –0{,}52$.

The negative sign of the correlation coefficient results from a different nature of AIS and SWLS on the one hand (both scales measure the intensity of positive phenomena – the higher values mean better quality of life and greater acceptance of illness) and HIV Stigma Scale on the other hand (here, higher values mean greater psychical stress associated with the illness). The values of testing probability p, providing for the determination of the statistical significance level are given in brackets.

The correlation between HIV Stigma Scale and SWLS amounted to -0.44 (0.0001***) and AIS -0.69 (0.0000***). The correlation between *Personalized stigma subscale* constituent and SWLS amounted to -0,44 (0,0001***) and AIS -0.67 (0.0000***). The correlation between the *Disclosure subscale* constituent and SWLS amounted to -0.36 (0.0021**) and AIS -0.52 (0.0000***). The correlation between the *Negative self-image subscale* constituent and SWLS amounted to -0.47 (0.0000***) and AIS -0.71 (0.0000***). The correlation between the *Public attitudes subscale* constituent and SWLS amounted to -0.44 (0.0001***) and AIS -0.67 (0.0000***).

CORRELATION BETWEEN HIV STIGMA SCALE CONSTITUENTS

Moreover, the correlation between HIV Stigma Scale constituents (and the total value) was measured during the survey. In this way, it was checked whether people with a high level of stigma in one sphere (e.g. personal one) are usually more burdened in the other spheres (for example, in the issues of small social achievements).

No value of testing probability p was inserted, since it was lower than 0.001 for each correlation, what indicates a very high significance of dependence. The *Disclosure subscale* shows the lowest correlation with the remaining scales (and the total value). The correlation coefficients determining the strength of dependence of this subscale with the others fall within the range from 0.67 to0.79, which indicates strong dependence. The remaining subscales are correlated with each other (and the total value) almost ideally. The correlation coefficients determining the strength of dependence of the *Personalized stigma subscale* with the others are between 0.67 and 0.96; the correlation coefficients determining the strength of dependence of the *Negative self-image subscale* with the others fall within the range from 0.75 to 0.95; the correlation coefficients determining the strength of dependence of the *Public attitudes subscale* with the others are between 0.76 and 0.97. It suggests that the questionnaire could be used only partially to evaluate the level of stigma (for example, only the *Personalized stigma subscale*), which would result in obtaining similar information on patients' ranking, according to the level of stigma, as on the basis of the whole questionnaire and the total value.

STIGMA SCALE, SWLS AND AIS AND SELECTED FACTORS

Moreover, the descriptive statistics were also performed for these scales in another form, first of all, providing for the 95% confidence interval for the average value of the individual measures in the whole target population.

For example, the level of the total HIV Stigma Scale measure for the surveyed population amounted, on average, to 125.7 pts. Taking into account the size of the tested sample and the differentiation of the results which were obtained, it is possible to determine the range within which (with the 95% certainty) the value of stigma for the whole target population should be included occurs (e.g. for all people infected with HIV in Poland). This range, the so-called 95% confidence interval, falls between 121.7-129.6 points.

SEX

The influence of sex on the level of SWLS, AIS and measures determined for the HIV Stigma Scale questionnaire was evaluated with the use of the Mann-Whitney test. No statistically significant differences were ascertained between the groups of women and men.

In case of SWLS and AIS, the point values were also categorised, providing for an evaluation of the quality of life and level of illness acceptance with the use of the adjective scale. The significance of differences, divided into the answers given by women and men was evaluated with the use of chi-squared test of independence. The results confirm that sex does not affect either of these two issues – neither the quality of life nor the level of illness acceptance.

CHILDREN

No differences in the level of life quality, illness acceptance or stigma were ascertained between the groups of people who have and those who do not have children.

SOCIO-LIVING CONDITIONS

In turn, socio-living conditions significantly affect all the measures which were analysed. The worse the socio-living conditions, the lower the quality of life, illness acceptance and the higher the level of stigma. The differences between those groups were of statistical significance. This was evaluated with the application of the Kruskal-Wallis test (Table 4).

Table 4. Effect of socio-living conditions on the satisfaction with life, level of illness acceptance and stigma level

Aspects of the quality of life and level of stigma	Socio-living conditions									$p_{K\text{-}W}$
	good (N = 18)			average (N = 41)			poor (N = 11)			
	$\bar{x}$	Me	s	$\bar{x}$	Me	s	$\bar{x}$	Me	s	
SWLS	22,4	22,5	6,0	16,0	15,0	3,0	16,3	15,0	3,0	0,0001***
AIS	23,8	21,0	9,2	17,2	15,0	8,2	17,4	19,0	5,2	0,0319*
HIV Stigma Scale (total score)	117,9	119,5	15,5	129,3	135,0	16,4	125,0	129,0	15,9	0,0130*
Personalized stigma subscale	51,6	51,5	7,9	56,7	60,0	9,3	54,7	54,0	7,9	0,0279*
Disclosure subscale	33,6	34,5	3,4	35,7	37,0	3,2	34,5	35,0	3,6	0,0236*
Negative self-image subscale	34,9	33,5	5,9	39,8	42,0	6,7	38,3	39,0	6,7	0,0066**
Public attitudes subscale	58,6	57,5	8,5	64,8	67,0	8,5	62,6	65,0	8,7	0,0236*

The results of the analysis, based on average values, are strongly confirmed in the analysis of the quality of life, determined with the use of the adjective scale. The result of the chi-squared test of independence is of statistical significance. In the group of people with poor socio-living conditions, more 90% people are quite unsatisfied or highly unsatisfied with their lives, while in the group of those declaring good socio-living conditions, there are only slightly over 25% such people.

Categorisation of the AIS values into three categories of illness acceptance slightly reduces the distinctiveness between the compared groups, though the result of the chi-squared test of independence is similar to the limit of the statistical significance ($p < 0,10$).

TIME OF VIRUS DIAGNOSIS

The time of virus diagnosis is a factor that influences the values of analysed scales. This influence is particularly visible not only for the AIS and the quality of life, but also for the majority of measures taken from the HIV Stigma Scale questionnaire. People living with the virus for a longer time show a lower level of illness acceptance (which is an interesting trend, since one might expect quite the reverse result, but the underlying reason may be the psychological fatigue with the illness), worse quality of life and more intense feeling of stigma.

The aforementioned results are also confirmed in the analysis performed with the use of the adjective scale of the quality of life and illness acceptance.

It is not surprising that the value of testing probability p for the level of illness acceptance slightly exceeds 0.05, taking into account the fact that categorisation of the point scale involves the levelling of all point results from the ranges classified within the same group. To give an example, no matter whether a given respondent had a score of 8 or 10 points on the AIS, both answers were categorised as "no acceptance".

PATIENTS' AGE

The correlation between age and the analysed measures of the quality of life, acceptance of illness and stigma level was also analysed. Taking into account the ordinal nature of the individual age groups, in order to maximise the synthesis of the results, the analysis of rank correlation was used, namely the Spearman's rank correlation coefficient.

Age showed a statistically significant correlation only with the level of illness acceptance. Relatively old people had a lower level of acceptance (lower point values of the AIS), which is indicated by the negative mark of the correlation coefficient. At the same time, the strength of this correlation is not high.

EDUCATION

Relationships between the level of education and the analysed measures of life quality, illness acceptance and level of stigma were analogously measured. No statistically significant correlations were ascertained between education and these measures.

DISCUSSION

Data from the Polish National Institute of Hygiene indicate that since the outset of the epidemic in Poland (1985) until 31 December 2013, 15,953 Polish citizens infected with HIV have been registered. In total, 2,794 cases of AIDS incidences have been registered and 1,174 ill people have died (webcite, 2013).

It must be added that people living with HIV/AIDS in Poland are not willing to fill in the questionnaire forms, since they are "overburdened" with them.

This survey, the first one conducted in Poland with the use of the described research tools, showed that the surveyed population had high, unfavourable scores, ranging between 130-140 points, which means that the respondents showed a high level of stigma.

The research conducted by Theilgaard et al. in Tanga in Tanzania proved that people living with HIV/AIDS experience stigmatisation and discrimination in their society (Theilgaard et al., 2011). In a survey performed in Canada, Mill et al. (Mill et al., 2010) evaluated stigmatising practices in health care centres in Ottawa and Edmonton. They believe that stigmatisation may be used as a mechanism of social control over people infected with HIV/AIDS. Their respondents described both active and passive social control mechanisms, such as avoidance and ostracism, labelling and marginalisation in the practice of health care centres. According to the authors, these results show the urgent need of multi-level interventions in management, with the purpose of reducing the level of stigmatisation of patients with HIV/AIDS (Mill et al., 2010).

The first hand research which was performed showed that the average point value of the scale amounted to almost 18 points, which may be determined as a quite low score, taking into consideration the range of possible scores from 5 to 35 pts. After converting the point values into the adjective scale, it turned out that nearly 19% respondents are "highly unsatisfied" with their life, while almost 56 % of them were "quite unsatisfied".

The literature on the subject draws attention to the significance and complexity of physical, psychological and social factors, such as health conditions and the quality of life of people infected with HIV (Basavaraj, Navya & Rashmi, 2010; Biadgilign, Reda & Digaffe, 2012; Ion et al., 2011). The available data suggest that physical manifestations, antiretroviral therapy, psychical well-being, social support systems, coping strategies, spiritual well-being, and psychiatric comorbidities are important predictors of QOL in this population.) (Basavaraj, Navya & Rashmi, 2010).

In her study performed with the participation of African American women with HIV who reside in the state of Massachusetts, with the use of the SWLS, Looby showed – among others – the direct and indirect relationship of subjective well-being on adherence to antiretroviral therapy, positive prevention and medical appointments among this population (Looby, 2008).

Research conducted by Ogbuji et al. in Nigeria among people living with HIV/AIDS proved that discrimination showed against them by their families, friends and the community negatively affected their quality of life (Ogbuji & Oke, 2010)

In the research performed among patients with HIV/AIDS in northern India, Wig et al. showed a low evaluation by the respondents of the four life quality domains: social, psychological, physical and environmental domain (Wig et al., 2006).

The current survey showed that respondents accepted their illness to various extents. Having categorised the AIS, the patients were classified into three separate groups. More than half (54%) of the surveyed people did not accept their illness, every third (33%) accepted it to a moderate extent, while every eighth (13%) person declared a high level of illness acceptance.

According to the data from literature on the subject, patients accepting their illness are those who understand the course of their illness and who are aware of it. They also show an optimistic and hopeful attitude towards life, confidence towards doctors and the methods of treatment which are applied, as well as taking an active part in their therapy (Lewko et al., 2007).

The research involving knowledge and behaviour related to HIV/ AIDS performed in various parts of the world showed similar incorrect views on the subject (Sarna et al., 2012; Fagbamigbe et al., 2011; Koblin et al., 2006]. Karmacharya et al. (Karmacharya et al.,2012) performed research concerning awareness and knowledge related to HIV/AIDS. In her survey, the author proved the significance of the diagnosis of the prevalence and risk factors leading to HIV infection and other sexually transmitted diseases among street children and youth in Kathmandu, Nepal (Karmacharya et al.,2012).

Research conducted by Yahaya et al. among youth in Kwara State in Nigeria examining factors hindering the acceptance of HIV/AIDS voluntary counselling and testing (VCT) proved that stigma and discrimination were the major factors responsible for the low acceptance and patronage of Voluntary Counselling and Testing centres in Kwara State (Yahaya, Jimoh & Balogun, 2010).

The first-hand research showed there was a statistically significant correlation between the quality of life and acceptance of illness, between HIV Stigma Scale constituents and AIS and SWLS, as well as between

the HIV Stigma Scale constituents.

Our study showed the correlation coefficient between SWLS and AIS is relatively high ($R = 0,50$). The positive mark of the correlation coefficient means the direction of dependence is logical – the higher the acceptance of the illness is, the better the quality of life is. This correlation is highly significant in terms of statistics ($p = 0,0000^{***}$), thus the result obtained may be generalised to the whole population of people with HIV/AIDS.

The study conducted by Lewko et al. with patients with type II diabetes also showed that the lowered quality of life is an important predictor of a worse acceptance of illness by patients (Lewko, Zarzycki & Krajewska-Kulak, 2012). In another study performed among 59 patients with type I and II diabetes, the author showed that people with a higher level of illness acceptance declared a higher satisfaction with life and its quality (Lewko et al., 2007).

Our current survey showed that all correlations between HIV Stigma Scale and its constituents and AIS and SWLS proved to be of statistical significance, whereas the level of illness acceptance (AIS) was more closely related to HIV Stigma Scale. As we have already mentioned in the "Results" section, a negative mark of the correlation coefficient results from a different nature of the AIS and SWLS, on the one hand (both scales measure the intensity of positive phenomena – higher values mean better quality of life and greater acceptance of illness) and HIV Stigma Scale on the other hand (here, higher values mean greater psychical stress associated with the illness). In studies performed by Thomas et al. (Thomas et al., 2005), Zelaya et al. (Zelaya et al., 2012), Mahalakshmy et al. (Mahalakshmy, Hamide & Premarajan, 2011) and Finn et al. (Finn & Sarangi, 2009), stigma was also found to have a significant negative correlation with QOL.

Whereas, Relf et al. during the study conducted in an urban clinic of adult HIV patients, examining HIV stigma using the Berger Scale of Stigma, showed that stigma was associated with depressive symptomatology and a lower quality of life (Relf et al., 2005). Similar results were obtained by Wingood et al. in research conducted in the Western Cape in South Africa (Wingood et al., 2008).

Studies performed by Charles et al. among people living with HIV/AIDS in South India diagnosing the association between stigma, depression and quality of life showed a significant association between severe depression and poor QOL ($p < .05$) and the fact that those people who experienced severe "personalised" and "negative" stigma were 3.4 (1.6-6.9) and 2.1 (1.0-4.1) times respectively more likely to have severe depression ($p < .05$) (Charles et al., 2012).

Our current research showed that almost all subscales are correlated with each other (and with the total value) almost ideally. According to Galwan et al., HIV stigmatization can harm the lives of those living with HIV in many ways (Galvan et al., 2008). These can include a loss in self-esteem, as well as deteriorated social interactions with others. How HIV-positive people manage HIV stigma and the strategies that they use can be influenced by the extent of social resources that they have available in their lives (Galvan et al., 2008). Social resources refer to family, friends, and others who can provide emotional support to HIV-positive people, which in turn can increase their self-esteem and self-confidence (Galvan et al., 2008). According to Galwan et al.(Galvan et al., 2008) these social resources are important because they may affect the extent to which an individual feels impacted by HIV stigma in their own lives.

The correlation coefficients determining the level of correlation between the *Personalized stigma subscale* and the others fall within the range of 0.67-0.96; the correlation coefficients determining the level of correlation between the *Negative self-image subscale* and the others fall within the range of 0.75-0.95; the correlation coefficients determining the level of correlation between the *Public attitudes subscale* and the others fall within the range of 0.76-0.97. The scores obtained during our study suggest that only one part of the questionnaire i.e. the *Personalized stigma subscale*, could be used to evaluate the level of stigma, giving similar information on the ranking of patients according to the level of their stigma, as in case of using the whole questionnaire form and total measures.

CONCLUSIONS

Empirical material collected during the studies, its statistical elaboration and interpretation of results define the scope of the final conclusions.

The respondents living with HIV/AIDS in Poland, who participated in the study, showed a high level of stigma, since the scores obtained for the following: *Personalized stigma subscale, Disclosure subscale, Negative self-image subscale, Public attitudes subscale* in the Berger HIV Sigma Scale were very high.

The majority of respondents were either "highly unsatisfied" or "quite unsatisfied" with their life. More than half of the surveyed people showed no acceptance of their illness, while every third accepted it to a moderate extent.

There is a statistically significant correlation between the quality of life and the acceptance of illness. A positive sign of the coefficient means that the direction of dependence is logical – the higher the acceptance of the illness is, the higher the quality of life is.

There is a statistically significant correlation between the HIV Stigma Scale and AIS and SWLS. All correlations between HIV Stigma Scale and its constituents and AIS and SWLS proved to be of statistical significance, whereas the level of illness acceptance (AIS) was more closely related to HIV Stigma Scale.

There is a statistically significant correlation between the HIV Stigma Scale constituents. The *Disclosure subscale* shows the lowest correlation with the remaining scales and the total value. The remaining subscales are correlated with each other (and the total value) almost ideally.

The scores obtained during our study suggest that only one part of the questionnaire i.e. the *Personalized stigma subscale*, could be used to evaluate the level of stigma shown by people with HIV/AIDS, giving similar information on the ranking of patients according to the level of their stigma, as in the case of using the whole questionnaire form and total measures.

Using these validated scales, researchers can accurately collect data to present the design of stigma reduction programs and interventions and enable the subsequent evaluation of their effectiveness. No statistically significant differences were ascertained between the groups of women and men. No differences in the level of the quality of life, illness acceptance or stigma were ascertained between the groups of people who have and those who do not have children.

In turn, socio-living conditions significantly affect all analysed measures. The worse the socio-living conditions are, the lower satisfaction with life or illness acceptance is, and the higher the level of stigma.

The time of virus diagnosis is a factor that influences the values of the scales which were analysed. This influence is particularly visible not only for the AIS and the quality of life, but also for the majority of measures taken from the HIV Stigma Scale questionnaire. People who have been living with the virus for a longer time show a lower level of illness acceptance (which is an interesting trend, since one might expect quite the reverse result, but the underlying reason may be the psychological fatigue with the illness), worse quality of life and more intense feeling of stigma.

Age showed a statistically significant correlation only with the level of illness acceptance. Relatively old people had a lower level of acceptance (lower point values of the AIS), which is indicated by the negative mark of the correlation coefficient. At the same time, the strength of this correlation is not high.

Relationships between the level of education and the analysed measures of life quality, illness acceptance and the level of stigma were analogously measured. No statistically significant correlations were ascertained between education and these measures.

The results obtained during our study performed in Poland among people living with HIV/AIDS, giving evidence on stigmatisation, discrimination and low self-esteem involving the quality of life, constitute

the basis for making further, more thorough research in this field in Poland. Our research will certainly intensify activities for the purpose of minimising the stigmatisation and limiting the disparity of people living with HIV/AIDS in Poland.

LIMITATIONS OF THE STUDY

It is clear that we must note the limitations of the present study. Because of the small sample size, the present study has only limited power. Similar studies should be conducted in the future, with the participation of a wider range of people living with HIV/AIDS in Poland.

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