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The health behaviour of homosexual and heterosexual women in context of theory of salutogenesis

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Summary

Aim of the study: Comparison of the particular health behaviours and levels of sense of coherence between groups of women who have sex with women (WSW) and women who have sex only with men.

Material and methods: The groups of 33 WSW and 31 women who have sex only with men were investigated. The health behaviours were studied with Inventory of Health Behaviours and the author's survey, physical activity the Polish version of the International Physical Activity Questionnaire, the sense of coherence with SOC-29 scale. Probability of harmful or risky alcohol drinking was verified by the screening test CAGE (abbreviation from: Cut, Angry, Guilty, Empty).

Results: Women who have sex exclusively with men scored higher than WSW in the positive mental attitude. WSW reported more frequent sexual contacts with strangers, admitted using more various psychoactive substances. WSW had lower rates of sense of comprehensibility and manageability and higher level of physical activity.

Discussion: WSW and women who have sex only with men show many similarities in their health behaviour and sense of coherence. All the observed differences concern some aspects of less traditional and less healthy lifestyle and less positive mental attitude among WSW. It can be explained by a psychosocial situation and experienced minority stress in this population. Our observation coincides with the results of previous studies.

Conclusions: WSW present characteristics which predispose to having more health problems, than women who have sexual contacts exclusively with men. We conclude that WSW should become receivers of special health prevention programs, adjusted to their specific needs.

Keywords: women, health behaviour, homosexuality, sense of coherence

INTRODUCTION

Health behaviour is defined as actions which are being taken to promote or harm physical and mental health [1-2]. The quality of health behaviour varies depending on many factors, such as: age, gender, level of education, as well as psychosocial factors and personality traits, such as psychosexual orientation, range of dependence on others, self-esteem, sense of coherence or locus of (health) control. They have an important impact on undertaking pro – and anti-health behaviour/s [1-3].

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Careful analysis of the data concerning women's health behaviour shows that lesbians more often admit expressing anti health behaviour than heterosexual women. First meaningful example is smoking. Despite the decreasing overall percentage of smokers, tobacco products are increasingly being used by women. Lesbians were found to smoke most often among the entire LGBT population (lesbians, gays, bisexuals and transsexuals), and also more than heterosexual woman [4, 5]. Another example concerns substance abuse. According to many authors, LGBT population in general is endangered by higher risk for psychoactive substances use than their heterosexual peers. It is being highlighted as a serious problem [6 – 9]. Relevant aspect of health behaviour are eating habits. Current studies' reports about this issue are somewhat ambiguous. Some of them suggest that LB (lesbians and bisexual) women eat healthier than heterosexual ones, while others report that they have less healthy diet and are more likely to suffer from overweight and obesity [10-11]. All the mentioned authors emphasize a need for additional research about this issue [10-11]. Main reasons for conducting an unhealthy diet seem to be lack of knowledge about healthy nutrition and increasing pace of life [10-12]. Noteworthy behaviour related to general health status is alcohol consumption. Gender was indicated to be an important factor differentiating range of its use. Women consume less alcohol units per year than men, and also make up the majority of non-drinkers in Poland. Although LB women consume more alcohol per year than heterosexual ones, the percentage of addicted women is similar in both groups [13, 14].

The health behaviour issue is closely associated with a health prevention. This term is defined as any important protective and predictive factor, which supports detection and effective treatment of diseases [15]. In the context of a female health prevention important role play medical follow-up visits. Noteworthy, the Public Opinion Research Centre (CBOS) reported in 2016, that almost every third person recognizes follow-up visits as the most important health-promoting activity. However, the view on the responsibility of medical staff and the state for the health of the individual is becoming more and more common, when compared to previous years. This is most vivid in the groups which negatively evaluate their own health status [16,17].

Another relevant aspect of health behaviour is physical activity. Its positive impact on health is widely known and repeatedly described in the literature [19]. According to WHO, healthy people aged 18-65 should take 30 minutes of moderate exercise 5 times a week or 20 minutes of intensive exercise 3 times a week. Everyone should also take about 10000 steps a day to stay healthy [19-22]. Due to the lack of scientific research, it is impossible to create a reliable picture of physical activity of pre-menopausal women. However, it was reported that in general lesbians aged 18-49 are more likely to engage in moderate physical activity than their heterosexual peers. On the other hand, LB women tend to spend a few hours more in a sitting position than heterosexual ones. Women from sexual minorities were found to move less if they are obese and suffer from physical disabilities than heterosexual ones in similar situation [23-26].

Basing on presented findings, it can be concluded that lesbians in some respects exhibit worse quality of health behaviour than heterosexual women. The exception seems to be the diet and physical activity, but only in specific subgroups. The justification for this phenomenon is usually the concept of minority stress [26-28]. It is defined "chronically elevated stress levels experienced by members of stigmatized minority groups." Its most important element is chronicity and durability of experienced stress, which in a long-time run has very negative effects on overall health level. This is not a transient stress situation in which there is a prospect of reducing the stressor to zero, but a constant alertness in order to protect oneself from danger (i.e. aggression based on homophobia). This condition is associated with a weakening of immunity, as well as a deterioration in the overall mental and physical condition of the body, which makes it prone to depression, addictions and makes it difficult to maintain satisfying social relations [4, 18, 27-30].

Useful context and framework for the aforementioned deliberations is the theory of salutogenesis. It was developed by a sociologist Aaron Antonovsky. Basing on his observation on the Nazi concentration camps survivors he asked

the question: why, despite the effects of severe stress, some people can stay healthy or recover? That was a question about source of health – salutogenesis. According to Antonovsky's concept, the answer to the above question includes the following four components: generalized resistance resources, generalized resource deficits (stressors), a sense of coherence and behaviour, and lifestyle [31,32]. The sense of coherence (SOC), was named "the key to health". That construct consists of three elements:

- The sense of comprehensibility – a cognitive element which states to what extend incoming information is coherent, ordered, understandable for a person. Also reflects the attitude how much events that occur in life can be predicted.
- The sense of manageability – a cognitive-instrumental component, that determines the degree to which resources are perceived as sufficient. They can come not only from the inside (i.e. psychological traits), but also from the outside (i.e. available social support, environment quality). A highly developed sense of manageability means that a person does not feel like a passive victim of events.
- The sense of meaningfulness – a motivational and emotional component that allows to determine the degree to which a person feels that life makes sense, and how much the requirements and obstacles are worth putting effort, dedication and commitment.

By design, the most important component for health is the sense of meaningfulness, that gives direction to the other elements [31-34].

A high sense of coherence ensures resistance to stress and illness and helps reduce recovery time. Moreover, it proves that if the individual perceives the world as comprehensible and coherent, and also directly connects with recognizing life as valuable. A person with a high sense of coherence is able to mobilize for action and cope with stressor before it turns into chronic stress. Thanks to this, negative health effects are kept to a minimum. A high sense of coherence is closely related to health-promoting behaviour such as physical activity, well-managed prevention, a healthy diet, and healthy leisure time [32-34].

Summing up, there are several health behaviours which seem to differentiate groups of WSW and women who have sexual contacts only with men (smoking, alcohol and other psychoactive substances use), or have an unclear status (physical activity, diet, follow-up) [1-34]. While searching databases we have not found any reports mentioning level of sense of coherence (SOC) among LB women or it's comparison with heterosexual ones. As SOC is recognized to be a key concept for understanding health, as well as health behaviour, we wanted to fill these gaps in research. Thus, we have conducted study focused on identification what are differences and similarities in health behaviour between groups of WSW and women who have sexual contacts only with men in the context of salutogenesis theory. Our hypotheses were:

- Women who have sexual contacts only with men exhibit more positive health behaviour than women who have sex with women;
- Women who have sex with women are more physically active than women who have sexual contacts only with men;
- Because of experienced minority stress and homophobia women who have sex with women obtain lower levels of the sense of coherence than women who have sexual contacts only with men.

MATERIAL AND METHODS

To verify mentioned hypotheses, we prepared the anonymous questionnaire battery. We used two ways to get access to the both groups – in a paper form in the city of Szczecin and via internet (social media networks). The WSW group was recruited with cooperation with Lambda Szczecin Association (LGBT non-governmental organisation). In total, approximately 230 questionnaires had been sent, of which 81 returned completed.

The inclusion criteria were: age 20-50 years, being female, having sexual contacts mostly or

exclusively with women (4-6 on the Kinsey scale [18]) or exclusively with men (0 on the Kinsey scale). Disqualification criteria were: age below 20 years and above 51 years, being male, serious/chronic somatic or mental illness/disorder (to diminish influence of disturbance variables on expected findings). 17 respondents, who rated their sexual behaviours as 1-3 on the Kinsey's scale (mostly having sexual contacts with men or equally with men and women) or X (asexual) were disqualified. Decision about inclusion criteria related to sexual behaviours was based on analysis of reports concerning characteristics of female sexual response [18].

Finally, 64 females (average age 29,46; SD = 7,79) took part in the study and were divided into two groups in terms of declared sexual behaviour. The first group consisted of 33 WSW (4-6 on the Kinsey scale) and the second group of 31 women with completely heterosexual behaviour (0 on the Kinsey scale).

To check normality of the variable distribution S-W test was used (p scores <0.05 indicate non-normal distribution).

Table 1. Sociodemographic characteristics of both groups.

Sociodemographic variables	WSW n=33		Women who have sex exclusively with men n=31		Differences between groups (chi^2. Mann-Whitney tests)
	M/N	SD/%	M/N	SD/%	p
Age (in years)	28.12	7.12	30.93	8.66	NS
Education level					NS
primary	1	3.03%	3	9.68%	
secondary	18	54.55%	14	45.16%	
higher	14	42.42%	14	45.16%	
Marital status					<0.05
single	28	84.85%	18	58.06%	
married	2	6.06%	12	38.71%	
in a relationship	3	9.09%	1	3.23%	
Duration of relationship (in years)	4.18	4.19	12.04	10.20	
Declared material situation					NS
below average	3	9.09%	2	6.45%	
average	15	45.46%	15	48.39%	
above average	6	18.18%	7	22.58%	
good	8	24.24%	6	19.35%	
hard to tell	1	3.03%	1	3.23%	
Subjective assessment of one's own health					NS
bad	4	12.12%	2	6.45%	
average	12	36.36%	10	32.26%	
good	14	42.43%	15	48.39%	
very good	3	9.09%	4	12.90%	

NS – statistically not significant

The questionnaire battery consisted of:

1. Kinsey's scale. The subject is asked to choose a number from 0 to 6. 0 means completely heterosexual, while 6 completely homosexual behaviour. Values from 1 to 5 are gradations of sexual behaviour, from more often heterosexual than homosexual behaviour (1-2) to more often homosexual than heterosexual behaviour (4-5). Value 3 means equal frequency of homosexual and hetero-

sexual behaviour [18]. To the scale was added an X sign which represents asexuality.
2. Inventory of Health Behaviour (IZZ) by Zygfryd Juczyński. It contains 24 statements about health-related behaviour. The respondent gives answers on the scale from "almost never" (1) to "almost always" (6). The inventory refers to four forms of health behaviour – proper eating habits, positive mental attitude, health practices and prevention [35].
3. Polish version of CAGE screening test consisting of 4 questions. Its sensitivity is estimated at 85% and specificity at 89%. The purpose of this test is to detect the first symptoms of hazardous and/or harmful alcohol use. Two and more positive answers are interpreted as alcohol abuse. Subjects can answer "yes" or "no" to each question. The test name is an acronym for words; Cut, Angry, Guilty, Empty. Each of the words in the abbreviation indicates the nature of the question asked [36,37].
4. A shortened version of the International Physical Activity Questionnaire (IPAQ) in the Polish adaptation of Elżbieta Biernat and Romuald Stupnicki. The questionnaire contains 7 questions covering all types of physical activity. Asked questions are divided into categories: moderate and intensive physical effort, walks and time spent in a sitting position. Each of the activities included in the survey must take at least 10 minutes at a time to be considered relevant. The examined physical activity and an additional question about the time spent in a sitting position concern the last 7 days [38].
5. Polish version of SOC-29 Life Orientation Questionnaire by Aaron Antonovsky. It consists of 29 questions and is used to study the sense of coherence and its three components (sense of comprehensibility, manageability, and meaningfulness). Respondents should respond to each question by specifying your answer on a seven-point scale that determines answer to the given situations. Numbers 1 and 7 include extreme answers – written in words [39].
6. The author's survey, containing questions concerning smoking (quantity per day), sleep length (quantity per day), sexual activity with strangers (frequency question), gynaecological prevention like follow-up visits, admitting to have knowledge and practice self-examination techniques (yes/no questions), and specific psychoactive substances used by subjects (the list of soft and hard drugs and designer drugs; yes/no questions).
7. Metric with questions regarding basic sociodemographic data.

Statistical analysis was performed using the IBM SPSS Statistics version 25 package. It was used to analyse basic descriptive statistics, Student's t-test for independent tests, chi-square test for independence and Fisher's exact test. The significance level was considered to be $p<0,05$, however, the results at the level of $0,05<p<0,1$ were considered approaching significance.

RESULTS

In terms of health behaviour, statistically significant differences were found in the following aspects: positive mental attitude as a part of the IZZ, psychoactive substances use and sexual contacts with strangers. In all these cases, women who have sex exclusively with men had greater intensity of positive, and a lower of negative health behaviour. The results regarding physical activity were observed at the level approaching significance ($p=0,07$). WSW were found to be more physically active. In case of sense of coherence, the difference between groups in overall result of the sense of coherence was significant and proved to be higher in the group of women who have sex exclusively with men. Significant differences were found in such areas as sense of comprehensibility and sense of manageability. In both cases, WSW scored lower. Both groups did not differ in their level of sense of meaningfulness. Other variables examined, i.e. proper eating habits, preventive behaviour, health practices and the overall result of IZZ health behaviour, risky drinking alcohol, sleep duration, smoking, visits to the gynaecologist did not obtain the required significance in comparisons between both groups. Therefore, it can be concluded that the examined groups show similar intensification of the above-mentioned health behaviour and health correlates. All results are included in table 2.

Table 2. Summary of results divided into studied groups.

	WSW n=33		Women who have sex exclusively with men n=31		t-Student test	chi-square test			Cohen's d
IZZ	M/N	SD/%	M/N	SD/%	t	chi^2	df	p	
Proper eating habits	3.48	0.80	3.22	0.55	-1.57			0.122	
Preventive behaviour	3.36	0.80	3.22	0.67	-0.80			0.427	
Positive mental attitude	2.97	0.74	3.38	0.56	2.45			0.017	0.61
Health practices	3.17	0.74	3.04	0.52	-0.81			0.420	
The overall result of health behaviour	78.09	14.33	77.16	10.29	-0.30			0.768	
IPAQ									
Physical activity (MET*)	2134.0	1626.9	1375.1	1433.9	-1.85			0.070[1]	0.49
SOC-29									
Sense of comprehensibility	35.97	9.09	41.03	10.68	2.05			0.045	0.51
Sense of manageability	38.70	12.07	46.42	8.65	2.92			0.005	0.73
Sense of meaningfulness	35.64	10.87	34.39	8.48	-0.51			0.609	
The overall result of sense of coherence	110.30	28.04	121.84	21.29	1.84			0.070[1]	0.46
Number of psychoactive substances ingested									
Psychoactive substances	0.77	0.82	0.38	0.56	-2.13			0.038	0.55
Sexual contacts with strangers									
never	22	66.67	29	93.54		10.91	3	0.012	
very rarely	8	24.24	0	0.00					
occasionally	3	9.09	1	3.23					
often	0	0.00	1	3.23					
Other variables									
Alcohol abuse	26	21.2%	5	16.1%		0.27		0.60	
Sleep 7-8 h/day	14	42.4%	13	41.9%		2.84		0.24	
Smoking	21	65.6%	15	44.4%		6.04		0.11	
Attending regular visits at the gynaecologist	15	42.5%	13	41.9%		0.08		0.78	

IZZ – Health Behaviour Inventory; SOC-29 – Life Orientation Questionnaire; IPAQ – International Physical Activity Questionnaire; *MET – weekly physical activity in min./week; [1]Approaching significance

DISCUSSION

The results presented above indicated a greater tendency of women who have sex with women to lead a less healthy lifestyle and show lower level of the particular components of the sense of coherence. There have also been shown some important similarities between both groups.

Firstly, in our study WSW seemed to be more open for having sexual contacts with strangers than women who have sex exclusively with men. Such tendency can be interpreted in terms of risky sexual behaviour. In order to explain that finding the specificity of female homosexual relationship should be outlined. Iniewicz [40] in his study describes the issue of attachment in

same-sex couples. He notes that the approach to define relationship itself and the loyalty in couple is different from those manifested in heterosexual relationships, more individual and less oriented for satisfying social expectations. Homosexual couples are more likely to have more liberal views on their partners. This may occur not only due to greater openness but also because of the non-acceptance of the family members or the social environment. Problems such as stigmatization, discrimination and stress appear commonly in the lives of sexual minorities [18, 40]. Then they can be reflected in one's approach to create relationships. Although that tendency is more often observed among gay men, it can be also explanatory for some women. Bailey et al. [41] conducted a study on a group of 803 homosexual women and 415 heterosexual women. The results showed that the majority of lesbians (60%) had only one sexual partner in the last year. In contrast, Ridge et al. [42] drew attention to the context of family problems and the impact of keeping in secret one's psychosexual orientation, which results in reduced quality of life and less satisfaction from relationship. This may result in seeking new sexual partners. Tendency for having more sexual contacts with strangers among studied WSW may also reflect non-compliance with social norms about the stereotypical romantic relationship and the effect of experienced stress. In the context of salutogenesis theory seeking sexual contacts with strangers can be interpreted as a result of lowered sense of manageability. Gaining sexual pleasure in such way can be a coping mechanism which (partially) restores feeling of control over one's life, regulates self-esteem or helps to achieve/restore other psychological resources. Such comment goes with our other finding – lower level of positive mental attitude ("avoiding too strong emotions, tensions and stress, situations affecting depressingly" [35]) among WSW participants. It demands executing some additional coping methods, which are not that relevant in the heterosexual group. Sexual activity with strangers can be one of them. On the other hand, the reasons for engaging in sexual contacts are very personalized and always depended from context in which they take place.

Secondly, the obtained results showed significant differences in the use of psychoactive substances (drugs) in the compared groups, indicating a greater diversity of substances in the experience of WSW. Sandfort et al. [43] obtained similar results by carrying out research on a sample of 3120 women with same-sex partners. They have observed more frequent contact with psychoactive substances in the last 12 months. This may indicate the existence of a real drug-related problem among sexual minorities that does not diminish over the years. The same study showed no link between drug use and mental diseases. Schuler et al. [44] conducted a study on a sample of 67 354 persons, of which 4868 participants were a group of sexual minorities. Research shows that LB women are more likely to experience drug-related problems. The main reason for the use of psychoactive substances in the analysed population may be the occurrence of minority stress. A fragment of research conducted by Schuler et al. [44] showed that bisexual people exhibited the biggest problems with psychoactive substances use and alcohol consumption. This group encounters additional types of stigmatization and discrimination related to psychosexual orientation. Therefore, the occurrence of minority stress would have an analogous effect among homosexual women. Bränström et al. [45] showed a clear context for the relationship between minority stress and use of psychoactive substances in their research conducted in years 2008-2015. The sample included 1673 persons from sexual minorities of both sexes (2,1% of the total sample; of which homosexual women n=198 and bisexual women n=683). A relevant positive correlation between discrimination, victimization and social isolation with drug use was proved [45]. With reference to our study, some explanation can bring our observation concerning lower levels of manageability and positive mental attitude among homosexual women. Psychoactive substance use can be a way to deal with higher stress rate related to such attitudes. However, the range of alcohol use, most common, socially accepted, legal and cheap substance, was comparable in both studied groups. Nevertheless, the data obtained in our study does not allow to fully explain a problem of psychoactive substance abuse among WSW. More information about this issue can be found in other publications [18,27]

In our sample WSW group presented less positive mental attitude than group of women who have sex exclusively with men. We find this result to be strictly connected to the minority stress and popular prejudice about LGB population. Research report on the situation of homosexual women edited by Struzik [46] shows that people belonging to sexual minorities are more exposed to stressful situations. Meyer et al. [47] pointed out the existence of a harmful stereotype which states that LGBT persons are incapable of intimacy and long-term relationships. Similar types of stigmatization and erroneous prejudices are also one of the causes of stress among sexual minorities. Frost et al. [48] in their work showed the associations between stress, depressive symptoms and relationship problems in LGB people who reveal or hide their psychosexual orientation. This observation can be an explanation for our finding. In addition, as in the present study, Krueger et al. [49] noted a disproportion in mental health quality between LGB and heterosexual persons. A group of sexual minorities reported a significantly higher level of stress. The project involved 7 579 women, of which homosexual ones constituted a group of 682 people. Heterosexual women reported the lowest stress level, which was clearly marked ($p<0,001$). In relation to the salutogenesis, basing on our findings, lower level of positive mental attitude can be one of the consequences of diminished sense of comprehensibility and manageability.

The group of WSW was found to be more physically active than group of women who have sex exclusively with men, on the level approaching significance. This observation coincides with previous observations about higher physical activity among homosexual women. VanKim et al. [24] presented analysis of research conducted on a group of 100000 women aged 24-64 repeated six times at the turn of the 1980s, 1990s and 2000s. Lesbian and bisexual women constituted 1341 participants. According to the authors, female homosexual participants engage in aerobic physical activity significantly longer than heterosexual ones. However, no differences were found in the strength of training. Baillargeon et al. [50] have developed extensive material concerning barriers encountered by homosexual women during physical activity. It turns out that lesbians often have to face stigmatization and prejudice in public places such as gyms and fitness clubs. Participants of this study reported the need for greater access to sport in places gathering sexual minorities. Authors proposed [50] that such initiative would reduce the feeling of embarrassment and discomfort experienced by homosexual women, and would encourage them to a wider range of physical activity.

Interestingly, we found similar level of sense of meaningfulness in both groups. This means that for all of the studied women their own lives make sense at the comparable level. They are capable to put effort, dedication and commitment to cope with life challenges to a similar degree. This is an optimistic outcome. As the sense of meaningfulness was identified to be most important component for health [32] it can used as an important resource for any type of work in the area of health with women characterised by various psychosexual orientations.

CONCLUSIONS

In reference the above analysis, both study groups of women did not differ diametrically in the overall level of health behaviour. However, there has been observed some specific needs of WSW which should be taken care of by the health care providers. This concerns improve of mental attitude in this group to more positive, a broad issue of safety in the context of sexual contacts (with strangers) and psychoactive substance abuse prevention. Those issues should become a content of preventive health programs (medical and psychological) aimed to support women from sexual minorities.

We assume that this is a preliminary study and more in-depth research about physical activity, health-related behaviour and the sense of coherence should be conducted. Additionally, we highlight a need for more studies focused on sense of coherence among WSW as a variable relevant to general health level [32].

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