

Sexual Function and Alcohol Consumption Peculiarities of Healthy Lithuanian Males

Sveikų Lietuvos vyrų seksualinė funkcija ir alkoholio vartojimo ypatumai

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SUMMARY

Introduction. The role of alcohol in male sexual health is considered controversial. Male sexual dysfunction is associated with amount of alcohol consumed per day and with the duration and severity of alcohol dependence. In some studies moderate alcohol intake was associated with a lower risk of erectile dysfunction. It is data, that alcohol reduces sexual fears, promotes sexual desire and can be beneficial to sexual functioning.

Primary hypothesis H0: Persons who regularly drink small amounts of alcohol have risk of sexual dysfunction.

The aim of this study was to evaluate the relations among alcohol consumption habits of healthy Lithuanian males and their current sexual function.

Methods. Lithuanian males who were active in social networks were invited to participate in our study. The research was conducted online using socio demographic questionnaire, the Alcohol Use Disorders Identification Test-Concise (AUDIT-C) test and European Male Aging Study (EMAS) sexual functioning questionnaire.

Results. Of 285 Lithuanian males who filled in the questionnaire 217 (76.14 %) did not have any physical or mental health disorders and were sexually active in past 4 weeks, so were included into final analysis. The age interval was from 18 to 70 years, mean age was 30.41±9.89. Only 11 respondents (5.1 %) presented themselves as non-users of alcohol, 65 (29.9 %) were identified as moderate users and remaining 141 respondents (64.9 %) were consistent with alcohol misuse according to AUDIT-C test. The mean overall sexual functioning score of frequent small quantities users was 21.18±5.9 (in limits 0–33), rare small quantities users 21.31±5.6, frequent large quantities users 21.44±4.69 and rare but large quantities users 22.95±5.61, respectively, but there was no difference.

Conclusions. Alcohol consumption of adult Lithuanian males still remains an alerting issue. Despite the fact that Lithuanian males are prone to easily overdose liquors they are quite content with their sexual health. Our study did not succeed to prove connection between alcohol consumption and male sexual functioning or detect any sexual health and alcohol.

Keywords: Sexual function, alcohol, binge drinking.

Abbreviations: IUA – international alcohol units; EMAS SFQ – The European Male Ageing Study Sexual Function Questionnaire; AUDIT-C – Alcohol Use Disorders Identification Test-Concise; AMT – Alcohol Myopia Theory

SANTRAUKA

Įvadas. Alkoholio įtaka vyrų lytinei sveikatai iki šiol išlieka kontraversiška. Seksualinė disfunkcija siejama su kasdien išgeriamu alkoholiu kiekiu ir priklausomybės alkoholiui trukme bei stiprumu. Tačiau esama duomenų, kad saikingas alkoholio vartojimas mažina erekcijos sutrikimų riziką. Netgi pristatoma, kad alkoholis mažina nerimą bei baimes susijusias su seksu, didina seksualinį potraukį ir taip gali pagerinti seksualinę funkciją.

Pirminė hipotezė H0. Stabilus mažų alkoholio dozių vartojimas neigiamai veikia vyrų seksualinę funkciją.

Tyrimo tikslas. Įvertinti vyrų alkoholio vartojimo įpročius ir jų įtaką vyrų seksualinei funkcijai.

Metodai. Lietuvos vyrai, aktyviai dalyvaujantys socialiniuose tinkluose ar laisvalaikio forumuose, buvo pakviesti dalyvauti tyrime. Tyrimas buvo vykdomas užpildant elektroninę anketą, kurią sudarė sociodemografiniai klausimai, sutrikimų, atsiradusių dėl alkoholio vartojimo, nustatymo testas, trumpoji versija (angl. *Alcohol Use Disorders Identification Test-Concise*, AUDIT-C) bei Europos vyrų senėjimo seksualinių funkcijų klausimynas (angl. *European Male Aging Study sexual functioning questionnaire*, EMAS-SFQ).

Rezultatai. Iš 285 Lietuvos vyrų užpildžiusių anketas 217 (76,14 proc.) neturėjo reikšmingų psichinės ir fizinės sveikatos sutrikimų, buvo seksualiai aktyvūs per pastarąsias 4 savaites ir buvo atrinkti tolimesnei analizei. Amžiaus intervalas buvo nuo 18 iki 70 metų, vidurkis 30,41±9,89 metų. Tik 11 respondentų (5,1 proc.) buvo abstinetai, 65 (29,9 proc.) alkoholį vartojo saikingai, o likę 141 respondentai (64,9 proc.) alkoholį vartojo viršydami nustatytas saugias normas. Dažnai ir mažai vartojančių alkoholį bendros seksualinės funkcijos vidurkis buvo 21,18±5,9 (ribose 0–33), retai ir mažus kiekius vartojančių ± 21,31±5,6, dažnai ir didelius kiekius vartojančių – 21,44±4,69 o retai, bet didelius kiekius vartojančių asmenų – 22,95±5,61. Nustatyti bendros seksualinės funkcijos rodiklių vidurkiai tarp grupių reikšmingai nesiskyrė.

Išvados. Alkoholio vartojimas išlieka aktuali problema tarp Lietuvos vyrų. Nepaisant dažnai nesaikingo alkoholio vartojimo, Lietuvos vyrai nesiskundžia savo seksualine funkcija. Šiuo tyrimu nepavyko nustatyti sąsajų tarp vyrų alkoholio vartojimo ir seksualinės funkcijos.

Raktažodžiai: Seksualinė funkcija, alkoholis.

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INTRODUCTION

From ancient times drinking alcoholic beverages and endorsing in sexual adventures was somehow related. Aristophanes in his writings depicts one of many ancient Greek symposia where guests started party with wine and ended with sexual activities [1].

There are 4 main components of male sexual function: libido, erection, ejaculation and orgasm. Sexual dysfunction is a problem with one of these components that interferes with interest in or ability to engage in sexual intercourse [2].

In Lithuania in 2014 alcohol consumption was 15.2 liters of pure alcohol per one older than 15 year inhabitant which is 1.5 times more than compared to EU average [2]. Twenty-five chronic disease and condition codes in the International Classification of Disease (ICD)-10 are entirely attributable to alcohol, and alcohol plays a component-risk role in certain cancers, other tumors, neuropsychiatric conditions, and numerous cardiovascular and digestive diseases [4].

Alcohol plays key role in male sexual health. Male sexual dysfunction is associated with amount of alcohol consumed per day and with the duration and severity of alcohol dependence. [5] On the other hand, meta analysis of population based studies show that alcohol has a curvilinear association such that moderate intake was associated with a lower risk of erectile dysfunction [6]. Also, Alcohol Myopia Theory (AMT) remains the leading theory for explaining intoxicated risk-taking [7]. It posits a pharmacologically-determined tunnel vision that focuses the drinker on salient factors that impel risk-taking, so alcohol use is associated with more intense sexual behavior [8]. Alcohol intake reduces sexual fears, promotes sexual desire and in this case is beneficial to sexual function [9]. Of course, more intense sexual behavior mostly means more risky sexual behavior and higher STDs transmission rate [10]. The hypothesis that alcohol in moderation confers health benefits is controversial and has implications for estimations of the global and regional burden of diseases caused by alcohol [11]. The aim of this study was to assess different patterns alcohol consumption influence on male sexual function in Lithuania where alcohol consumption is extremely high and andrological scientific studies quite scarce [3].

MATERIALS AND METHODS

Study population

The Lithuanian males were invited to participate in the study through social networks such as 'Facebook' or 'GooglePlus'. This study was approved by the Bioethics Committee of Lithuanian University of Health sciences (LUHS) (No. BEC – LSMU(R)-43).

Methods

All study participants were invited to fill in the authors composed questionnaire of social-demographic factors, sexual orientation smoking properties, also the participants were asked to mark if they have any medical condition or are taking any medication. The participants were also asked to report mood alterations or anxiety symptoms persisting for more than two weeks. Respondents which reported physical or mental health problems were excluded from the study. Only respondents sexually active in past 4 weeks period were included into final

analysis

The shortened version of Alcohol Use Disorders Identification Test (AUDIT) questionnaire Alcohol Use Disorders Identification Test-Concise (AUDIT-C) was used to evaluate the risk of alcohol consumption of study participants. It contains three questions which cover frequency of drinking, quantities used when drinking and incidence of binge drinking [12, 13]. Full AUDIT performs slightly better in identifying patients with active alcohol abuse or dependence, but we had only to identify problematic users, so AUDIT-C questionnaire was chosen. Participants who scored 0 in AUDIT-C test were qualified as non-users. Participants who gathered less than 4 AUDIT points score were identified as moderate users and remaining participants who were evaluated 4 and more AUDIT points were identified with alcohol misuse.

European Male Aging Study Sexual Function Questionnaire (EMAS SFQ) was used to evaluate sexual function of participants. EMAS-SFQ has four distinct domains (overall sexual functioning [OSF], masturbation, sexual functioning-related distress, and change in sexual functioning) [14]. The questionnaire seems very useful because it covers not only erectile function but a much broader picture of male sexuality. The questionnaire was intentionally created for older men, however it seemed handy evaluating any age respondents [15]. The consistency of questionnaire was good (Cronbach alpha 0,8) [16]. Overall sexual functioning scale had valid range between 0–33 points, sexual distress (0–20), Change of sexual function (-12 ± 12) and Masturbation domain (0 to 7 points).

We distributed study participants into four groups related to alcohol consumption habits: frequent small quantities (more than twice a week, less than 3 international alcohol units(IUA)) users, rare small quantities (twice and less in a week, less than 3 IUA) users, frequent large quantities (more than twice a week, 3 and more IUA) users and rare but large quantities users aka binge drinkers (twice and less a week, 3 and more IUA). IUA contains 10 grams of alcohol, in this case 1 IUA matches 25g of strong liquor, 150g of wine or 330g of beer [17].

Statistical analysis

All the continuous data are represented as mean (SD, standard deviation); all categorical data – as numbers and percent. Frequency rates were compared using Chi-square test, mean variables – ANOVA. Linear regression model was used in predictive analysis. Statistical analysis was performed using Statistical Package for the Social Science, SPSS 19.0; the results are statistically significant at $p < 0.05$.

RESULTS

Of 285 Lithuanian males who filled in the questionnaire 217 (76.14 %) reported no physical or mental health disorders and were sexually active in past 4 weeks, so were included into final analysis. The age interval was from 18 to 70 years, mean age was 30.41 ± 9.89 . Most of respondents (132 – 60,8 %) were working, 36 – 16,6 % were studying, 38 – 17,5% studying and working at the same time, 9 (4,1 %) were jobless, 2 (0,9%) were retired. Most of the participants (134 – 61,8%) reported having university or college degree, 43 (19,8%) were undergraduates from university or college, 40 (18,4%) had high school education. Homosexual orientation was reported by 14 respondents (4.5 %), while remaining

Research report of junior scientists

Table 1. Domains of sexual function in different alcohol consumption habits

Domain of sexual functioning	Drinking habit	Count N	Average±SD	Minimum	Maximum	P
Overall sexual functioning	rarely small quantities	91	21.18±5.94	8	32	0.60
	rarely large quantities	52	21.31±5.60	6	29	
	frequently small quantities	41	21.44±4.69	11	30	
	frequently large quantities	22	22.95±5.61	10	32	
Sexual distress	rarely small quantities	91	2.01±2.63	0	15	0.80
	rarely large quantities	52	2.13±3.07	0	14	
	frequently small quantities	41	2.46±3.15	0	14	
	frequently large quantities	22	2.50±3.08	0	13	
Change of sexual function	rarely small quantities	91	0.07±2.24	-7	6	0.47
	rarely large quantities	52	0.25±2.58	-5	12	
	frequently small quantities	41	0.32±2.64	-5	9	
	frequently large quantities	22	-0.64±2.54	-9	3	
Masturbation	rarely small quantities	91	2.86±1.94	0	7	0.80
	rarely large quantities	52	3.05±2.20	0	7	
	frequently small quantities	41	3.19±2.22	0	7	
	frequently large quantities	22	3.18±2.07	0	7	

presented themselves as heterosexual. Smoking was reported by 70 participants (32.3 %).

Only 11 respondents (5.1 %) presented themselves as non-users of alcohol, 65 (29.9 %) were identified as moderate alcohol users according to AUDIT-C test and remaining 141 respondents (64.9 %) were consistent with alcohol misuse according to AUDIT-C test. Alcohol misuse with possible liver damage was detected in 75 participants (34.6 %) who scored more than 5 points in AUDIT-C score.

Homosexual men were more likely to drink rarely but heavily than heterosexual men (57.1 % Vs 22.9 %), however there were none homosexual in frequent and heavy drinker's group (0 vs. 11.5 %). The differences were significant ($p < 0.05$).

Connection between different alcohol consumption habits and four domains of sexual functioning (overall sexual function, sexual distress, masturbation and change of sexual function) is depicted in table 1. The mean overall

sexual functioning score of frequent small quantities users was 21.18±5.90 (in limits 0–33), rare small quantities users 21.31±5.6, frequent large quantities users 21.44±4.69 and rare but large quantities users aka binge drinkers 22.95±5.61, respectively. Paradoxically, binge drinkers had the best sexual functioning, but the difference was not significant. There were no statistically significant differences in sexual distress, function change parameters and masturbation domain, too.

Comparison of abstainers, moderate drinkers and risky users' sexual function is included in table 2. Overall sexual functioning of abstainers was better 2.54±6.42, than moderate users 21.72±5.93 and risky users 21.33±5.40, but was not significant. Other domains also did not show significant differences.

The difference in sexual functioning between smokers and non-smokers groups was not statistically significant in our study.

Table 2. AUDIT C score groups in different domains of sexual functioning

Domain of sexual functioning	AUDIT SCORE*	Count N	Mean±SD	Minimum	Maximum	P
Overall sexual functioning	Non-users	11	22.54±6.42	8	31	0.73
	AUDIT 1–3	65	21.72±5.93	8	32	
	AUDIT 4 and more	141	21.32±5.39	6	32	
Sexual distress	Non-users	11	2.27±1.95	0	6	0.22
	AUDIT 1–3	65	1.68±2.28	0	11	
	AUDIT 4 and more	141	2.42±3.11	0	15	
Change of sexual function	Non-users	11	-0.73±1.55	-4	2	0.23
	AUDIT 1–3	65	0.42±2.14	-4	6	
	AUDIT 4 and more	141	-0.06±2.56	-9	12	
Masturbation	Non-users	11	3.36±1.56	0	6	0.30
	AUDIT 1–3	65	2.71±1.93	0	7	
	AUDIT 4 and more	141	3.15±2.12	0	7	

Table 3. Age groups and domains of sexual functioning

Domain of sexual functioning	Age group, years	Count N	Mean±SD	Minimum	Maximum	P
Overall sexual functioning	18–24	68	19.98±6.37*	6	32	<0.001
	25–39	115	22.93±4.66*	10	31	
	40–54	25	21.04±5.71*	10	32	
	55 and more	9	16.00±3.57*	11	22	
Sexual distress	18–24	68	2.47±2.99	0	14	0.50
	25–39	115	1.92±2.47	0	15	
	40–54	25	2.40±3.88	0	14	
	55 and more	9	2.89±2.89	0	7	
Change of sexual function	18–24	68	0.17±2.34	–5	8	0.21
	25–39	115	0.16±2.55	–9	12	
	40–54	25	–0.32±1.67	–5	3	
Masturbation	55 and more	9	–1.44±2.45	–5	2	<0.001
	18–24	68	3.81±1.90*	0	7	
	25–39	115	2.89±1.93*	0	7	
	40–54	25	2.04±2.26*	0	7	
	55 and more	9	1.56±1.74*	0	5	

*Significant differences $p < 0.05$

The connection between age and sexual functioning parameters is depicted in table 3. In age group from 18 to 24 years overall sexual functioning was 19.98 ± 6.38 , in 25–34 years age group 22.94 ± 4.66 , 35–54 years age group, 21.04 ± 5.71 and in 55 years and older age group 16.00 ± 3.57 and the differences between groups were significant ($p < 0.05$). There were no statistically significant differences in sexual distress, function change and masturbation domains while testing age groups.

Men who did not have sexual intercourse in past 4 weeks were masturbating more frequently 81.3% vs. those who had a sexual partner in past 4 weeks – 58.9 % ($p < 0.05$).

DISCUSSION

Our study failed to prove any connection between alcohol consumption and male sexual functioning; however alcohol misuse is prevalent in more than half of study sample which somehow correlates with harsh Lithuanian alcohol misuse statistics. Moderate drinkers did not show better sexual functioning than complete non-users, so it seems that alcohol myopia theory [7] is working only occasionally, but is not consistent for longer periods. Also, moderate drinkers did not show lower rates of sexual dysfunction that did not prove the J shape theory in our sample. The failure to prove the J shape correlation may be influenced by our study participants quite young age average, therefore curvilinear association between alcohol consumption and erectile performance was proven in study samples of quite older participants [18, 19].

Whether moderate alcohol consumption influence on sexual behavior is still debatable, heavy drinking is clearly associated with higher prevalence of sexual dysfunction [20, 21]. However, our study lacks similar evidence. It is impossible to evaluate from our study for how long respondents were overdosing alcoholic substances, but it is possible that misuse period might be too short to manifest in health issues such

as sexual dysfunction. Also, the lack of connection between alcohol use and sexual health may be attributable to quite small sample size.

Overall sexual function of our respondents was better than in other healthy population studies [16, 22], it may be because of small sample size, and relatively young average age of respondents. The masturbation prevalence was quite similar as in one of the previous Lithuanian andrology studies [23]. Also, not so few respondents denied masturbating at all, about what we have quite skeptical consideration. The problem may be high defensiveness and shyness of these respondents, and perhaps not perceiving andrological studies as a separate area of science.

The connection between male aging and sexual functioning decrease is well established and mainly tied with erectile dysfunction [19, 24, 25]. On the other hand, evidence show that regular intercourse protects against the development of erectile dysfunction among older men [26]. In our study sample older men sexual functioning was relatively satisfactory which show that Lithuanian men agree with European men that aging does not mean celibacy [27].

We presume that quite small study sample and quite young average sample age did not let us to prove smoking damage to sexual health what is clearly evidenced in epidemiological studies [28, 29].

Masturbation frequency dependence on having sexual partner or not is somewhat contradictory. In our study more prone to masturbation were single men; however it is not always the rule of thumb in literature [23, 30, 31].

There are very few studies about homosexual men health and behavior patterns in Eastern Europe, however in Western World correlation between sexual orientation and binge drinking is established [32, 33]. One study has noticed that homosexuals in USA were more prone to binge drinking than

in Europe, so in this case our study gay participants are more similar to Americans than Europeans [34].

In summary, it is clear that larger scale studies in sexual health and alcohol topics are needed. Alcohol is potent biopsychosocial substance, which is in many cases detrimental and its possible benefits are still very contradictory.

CONCLUSIONS

Alcohol consumption of adult Lithuanian males still remains an alerting issue. Despite the fact, that Lithuanian males are prone to easily overdose liquors they are quite content with their sexual functioning. Our study did not succeed to prove connection between alcohol consumption and male sexual functioning or detect any sexual health and alcohol usage.

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