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## Sex life during pregnancy: survey among women

### Spolno življenje v nosečnosti: anketa med ženskami

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**Key words:** prenatal period; sexuality; changes in pregnancy; partnership

**Ključne besede:** predporodno obdobje; spolnost; nosečniške spremembe; partnerstvo

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#### ABSTRACT

**Introduction:** Pregnancy involves emotional and physiological changes, which affect the pregnant woman, her partner and their relationship. The sexuality of the couple changes with the onset of pregnancy compared to pre-pregnancy. The aim of the study was to investigate changes in the sex life of women during pregnancy.

**Methods:** Quantitative research based on a questionnaire was carried out in August 2016 on a purposive sample of 685 women who had given birth at least once and women who were in the last trimester of pregnancy when completing the questionnaire. The data analysis included frequencies, percentages, mean values and independent samples *t*-test calculations.

**Results:** The frequency of sexual intercourse decreased compared to the preconception period. The majority of women (43 %) included in the survey stated that their sexual desire declined during pregnancy. The most common factors that hindered women's sexual activity were fatigue and the feeling of awkwardness.

**Discussion and conclusion:** Psychophysical changes in a pregnant woman may affect the couple's sexuality to a greater or lesser extent, which may in turn affect their relationship. It is therefore crucial that couples be offered quality counseling on sex life by appropriate institutions and programmes.

#### IZVLEČEK

**Uvod:** V nosečnosti nastopijo čustvene in fiziološke spremembe, ki vplivajo na nosečnico, moškega in njun partnerski odnos. Glede na obdobje pred nosečnostjo se spolnost para spremeni. Namen raziskave je bil raziskati, kakšne so spremembe v spolnem življenju žensk med nosečnostjo.

**Metode:** Kvantitativno raziskavo, zasnovano na osnovi ankete, smo izvedli v avgustu 2016 na namenskem vzorcu 685 žensk, ki so vsaj enkrat rodile, in nosečnic, ki so bile ob izpolnitvi anketnega vprašalnika v zadnjem trimesečju nosečnosti. Obdelava podatkov je potekala na osnovi izračunov frekvenc, odstotkov, aritmetične sredine in *t*-testa za neodvisne vzorce.

**Rezultati:** Pogostost spolnih odnosov se je v primerjavi s časom pred nosečnostjo zmanjšala. Največ žensk (43 %), vključenih v raziskavo, je navedlo upad spolnega poželjenja v času nosečnosti. Z naraščanjem trajanja nosečnosti se je postopoma zmanjševalo tudi zadovoljstvo žensk s spolnostjo. Najpogostejša dejavnika, ki sta oteževala spolno aktivnost žensk, sta bila utrujenost in občutek okornosti.

**Diskusija in zaključki:** Psihofizične spremembe nosečnice lahko bolj ali manj posežejo v spolnost para, kar lahko vpliva tudi na partnerski odnos. Zato je pomembno, da se parom med nosečnostjo v ustreznih institucijah in programih nudi možnost kakovostnega svetovanja tudi s področja spolnega življenja.

## Introduction

Questions regarding sexual activity in different trimesters of pregnancy still cause discomfort to many women as well as to healthcare professionals. Although sexual intercourse is not harmful for the pregnant woman or the foetus (Makara-Studzińska, et al., 2015), sex during pregnancy remains rather infrequent; some believe that it is predominantly due to women's reduced interest in sexual intercourse during pregnancy (Bello, et al., 2011).

A study carried out amongst rural population in South-Western Nigeria shows that the initiator of sexual intercourse both before and during pregnancy is predominantly the man (94 %); however, with the progression of pregnancy, the share of the woman's initiative increases (Bello, et al., 2011). The women who often take the initiative for intercourse in pregnancy also report increased desire, sexual arousal, sexual fulfillment and intensity of orgasm (Sacomori & Cardoso, 2010).

According to the study by Makara-Studzińska and colleagues (2015), couples are more sexually active in the first trimester, while their sexual activity decreases toward the end of the third trimester. Before pregnancy, couples have sexual intercourse three to four times a week, and during pregnancy the frequency decreases to once a week. The frequency of sexual intercourse is at its lowest in the third trimester; 21 % of pregnant women abstain from sex at that time. However, researchers highlight that the frequency of sexual intercourse often increases in the second trimester, which is when couples engage in more sexual activity than in the first trimester.

The primary reasons why pregnant women refuse sexual intercourse are fatigue, exhaustion and reduced sexual desire (Eryilmaz, et al., 2004). Pregnant women report consenting to sexual intercourse in order to fulfill their perceived marital obligation, to satisfy the partner, keep the partner, and prevent marital disharmony (Bello, et al., 2011). The factors which may also influence the sexual activity of couples are discomfort and insecurity. The factors which reduce the frequency of sexual intercourse are bleeding after intercourse (Sacomori & Cardoso, 2010), inability to orgasm and painful intercourse (Gokyildiz & Beji, 2005), nausea and vomiting, lack of interest and physical limitations or discomfort (Orji, et al., 2002). A study by Orji and colleagues (2002) and a study by Sacomori and Cardoso (2010) also report fears that intercourse might damage the foetus as a factor which reduces the frequency of intercourse during pregnancy. Similarly, a study by Gokyildiz and Beji (2005) reveals that during intercourse in pregnancy, couples are most often hindered by fear. Pauleta and colleagues (2010) report that fears associated with sexual intercourse were present in 23.4 % of pregnant women.

Pauls and colleagues (2008) found that satisfaction with body image during pregnancy also influences the frequency of sexual intercourse in the first trimester of pregnancy. Factors such as a close connection with the partner and a quality relationship (which does not necessarily include sex) were listed as the most important indicators of men's satisfaction with their sex life during the partner's pregnancy. A close connection between the partners seems to be associated with intimacy, mutual understanding, a sense of harmony, support and the ability to rely on the partner (Nakić Radoš, et al., 2015). Similarly, Davies and Kitschke (2015) stress the importance of open communication between the couple and the normality of a wide range of emotions during pregnancy. As confirmed by Silveira and colleagues (2013), unconscious psychological processes play an important role when the woman experiences her first pregnancy. Due to the psychological and physiological changes during pregnancy, the woman may experience pregnancy as stress (Inanir, et al., 2015). Silveira and colleagues (2013) explain that psychological changes which occur during pregnancy, for example emotional instability with depressive tendencies, a negative self-image, and a feeling of unattractiveness, are common characteristics of all pregnant women and as such influence their sexual response.

As already mentioned, a woman's sexual desire (Sagiv-Reiss, et al., 2012) and the frequency of orgasm (Bello, et al., 2011; Sagiv-Reiss, et al., 2012) decrease during pregnancy. Lack of vaginal lubrication and low libido, especially in the first six weeks of pregnancy, are the principal reasons for reduced sexual desire (Silveira, et al., 2013). A pronounced change in sexual desire occurs in the second trimester as a result of increased blood flow to the genitals and breasts, which gives the woman more pleasure during sexual intercourse (Gokyildiz & Beji, 2005). Accordingly, Khamis and colleagues (2007) report that 48 % of women shared the opinion that their satisfaction with sex life had improved in the second trimester. Pregnancy not only influences women's physical self-perception, but also causes a considerable deviation in the sexual satisfaction of both partners. In a woman, sexual satisfaction often decreases with the week-by-week progression of pregnancy, while in men, the greatest decrease in sexual satisfaction is felt in the third trimester of the partner's pregnancy (Bello, et al., 2011). Olusegun and Irete (2011) found that only 53 % of women reported enjoying sexual intercourse during pregnancy.

### *Aims and objectives*

The aim of the study was to explore the changes in the sex life of women during pregnancy. Based on the literature review, changes were anticipated in the frequency of sexual intercourse and in the sexual desire of women when comparing pregnancy with

the preconception period. The study also examined women's satisfaction with their sex life during pregnancy.

Therefore, two research questions were proposed:

- What is the frequency of sexual intercourse in pregnancy compared to the preconception period?
- What is the frequency of women's sexual intercourse before pregnancy and in different trimesters?

Moreover, two hypotheses were formed:

H1: During pregnancy, the level of women's sexual satisfaction is lower.

H2: Women with uncomplicated pregnancies were less frequently afraid of sexual intercourse.

## Methods

A descriptive and causal non-experimental method of empirical research was used. A structured survey questionnaire was the chosen research instrument.

### *Description of the research instrument*

The structured online survey questionnaire was developed on the basis of a critical overview of three analogous foreign questionnaires. The authors who agreed to share their questionnaires for the present study were Gokyildiz and Beji (2005), Sacomori and Cardoso (2010) and Nakić Radoš and colleagues (2015). A double-blind translation of the questions was performed. In the preface and the introductory page of the online questionnaire, respondents were informed of the aim of the study and the terms of participation in the study. The survey questionnaire consisted of 20 closed-ended questions. For the questions requiring an assessment, a rating scale from 0 (unimportant, absent) to 10 (very important, very intense) was used. Three questions included a four-interval scale, and three other questions had a five-interval scale. The questionnaire was preliminarily tested on six people and needed no adjustments.

The questions of the online questionnaire were divided into four categories:

1. respondents' demographic data,
2. questions crucial for the classification of appropriate respondents,
3. questions considered relevant for inclusion in the questionnaire,
4. questions relating to hypotheses.

The validity and reliability of the instrument were reinforced by means of an expert examination of the instrument. Experts familiar with the theoretical background and methodological approaches of the study evaluated the explicitness, distinctiveness and exhaustiveness of the developed categories and questions in the research instrument (Polit & Beck, 2001). According to  $r_{tt} \geq \sqrt{h_2}$ , our instrument was fairly reliable (reliability of the whole instrument:  $r_{tt} = 0.75$ ), which was also confirmed by the values

of Cronbach's coefficient alpha (the coefficients of internal consistency were between 0.72 and 0.81).

### *Description of the sample*

For the purposes of the study, a non-probability purposive sample was gathered through a two-step snowball sampling process. A simple purposive sample consisted of women who had given birth at least once and women who were in the last trimester of pregnancy when completing the questionnaire. The online survey questionnaire was adequately completed by a total of 685 women. The average age of respondents was 27.21 years (from 18 to 45). 45 % of women had finished graduate-level education, 40 % secondary-level education, 14 % postgraduate level education and 1% primary-level education. 98 % of respondents were in a stable relationship during pregnancy and 81 % had experienced a complication-free pregnancy.

### *Description of the research procedure and data analysis*

Participation was voluntary and general research principles of anonymity and personal confidentiality were followed. The data were collected through the online application 1KA from 1 August 2016 to 10 August 2016. The data were analysed by means of descriptive statistics; namely frequencies, percentages, mean values (arithmetic mean, standard deviation), Levene's test of homogeneity of variance and independent samples *t*-test were calculated. Statistically significant differences between individual variables were calculated using the SPSS 20.0 software for statistical data analysis (SPSS Inc., Chicago, IL, USA).

## Results

The data presented in Tables 1 and 2 refer to our first and second research questions. Table 1 shows the data on the initiator of sexual intercourse or sexual activity before pregnancy and in individual trimesters of pregnancy. In all periods, both partners took the initiative for intercourse; however, as can be seen, the initiative of the woman increased with the progression of pregnancy. The percentage of male initiative remained relatively stable throughout the pregnancy.

We were also interested in the women's response to the partners' initiative for sexual intercourse. It was found that before pregnancy the majority of women (92 %) had been happy to consent to sexual intercourse. The percentage decreased further with the progression of pregnancy and, at the end of the third trimester, dropped to 60 %. The results show that pregnant women were reluctant to consent to sexual intercourse and this reluctance grew with the progression of pregnancy.

**Table 1:** *The initiative of both partners for sexual intercourse or sexual activity*

**Tabela 1:** *Iniciativa za spolni odnos s strani obeh partnerjev*

Period / Obdobje	n (%)					Sum / Skupaj (n)
	Always me / Vedno jaz	Usually me / Običajno jaz	My partner and I took initiative to the same extent / Oba s partnerjem sva dala pobudo v enakem razmerju	Usually my partner / Običajno moj partner	Always my partner / Vedno moj partner	
Before pregnancy	20(3)	43(7)	406(67)	118(20)	17(3)	604
In 1st trimester	21(4)	72(12)	331(56)	136(23)	27(5)	587
In 2nd trimester	27(5)	93(16)	307(52)	133(23)	26(4)	586
In 3rd trimester	49(8.5)	136(24)	228(39)	116(20)	49(8.5)	578

Legend / Legenda: n – number / število; % – percentage / odstotek

**Table 2:** *Frequency of sexual intercourse before pregnancy and in different trimesters*

**Tabela 2:** *Pogostost spolnih odnosov od prednosečnostnega obdobja do zadnjega trimesečja nosečnosti*

Frequency / Pogostost	n (%)			
	Before pregnancy / Pred nosečnostjo	In 1st trimester / V 1. trimesečju	In 2nd trimester / V 2. trimesečju	In 3rd trimester / V 3. trimesečju
More than once a day	7(5)	9(2)	5(1)	1(2)
Once a day	46(8)	25(5)	19(3)	8(1)
Three to four times a week	213(38)	102(19)	81(15)	56(10)
Twice a week	166(29)	129(23)	144(26)	94(17)
Once a week	57(10)	106(19)	91(17)	95(17)
Once every two weeks	37(7)	67(12)	89(16)	84(15)
Once a month	10(2)	41(7)	38(7)	45(8)
Less than once a month	4(1)	21(4)	30(5)	47(9)
I did not have sex	4(1)	49(9)	53(10)	114(21)
Skupaj (n)	564	549	550	554

Legend / Legenda: n – number / število; % – percentage / odstotek

The frequency distribution in Table 1 shows that the frequency of sexual intercourse during pregnancy decreased when compared to the preconception period. The frequency of sexual intercourse decreased compared to the time before pregnancy (Table 2). Before pregnancy, the majority of couples (38 %) had sexual intercourse three to four times a week on average, and during pregnancy twice a week in the first (23 %) and second (26 %) trimester and once a week in the third (17 %) trimester on average. These results show that an increasing percentage of women stopped having sexual intercourse in the later weeks of pregnancy; in the last trimester, 21 % of women abstained from sex. The percentage of women who had sexual intercourse twice per week in the second trimester (26 %) slightly increased compared to the first trimester.

The results of our study show that the most common factors preventing or hindering sexual intercourse were the woman's fatigue (28 %) and feelings of awkwardness (21 %). Other factors that contributed to abstinence from sexual intercourse in less than 16 % of women were inability to find a suitable sex position, nausea, fear that sexual intercourse might cause preterm labour, and lack of vaginal lubrication.

The majority of women surveyed (43 %) indeed responded that their sexual desire decreased during pregnancy (Table 2). It should not be overlooked that 31 % of respondents estimated their sexual desire to have increased during pregnancy, while the remaining 26 % responded that it had remained the same as before pregnancy.

The data presented in Tables 3, 4 and 5 refer to our first and second hypotheses. As evident from Table 3, almost half of all women (48 %) always experienced an orgasm in the preconception period. During pregnancy, the percentage decreased progressively and dropped to 32 % in the third trimester. The results in Table 3 also show that the percentage of women who never climaxed progressively increased throughout pregnancy; reaching 28 % in the third trimester. In the pre-conception period, 18 % of women experienced multiple orgasms during sexual intercourse, while this percentage was lower for all three trimesters.

One of the central aims of the study was to find out how sexual satisfaction changes during pregnancy. Hypothesis 1 assumed that during pregnancy, the woman is less satisfied with her sex life. The results in Table 4 show that the degree of sexual satisfaction of women gradually decreased during pregnancy, while the degree of dissatisfaction grew. Hypothesis 1

**Table 3:** Frequency of female orgasms during sexual intercourse before pregnancy and in each trimester  
**Tabela 3:** Pogostost ženskih orgazmov v času pred nosečnostjo in med nosečnostjo v posameznem trimesečju

Period / Obdobje	n(%)					Sum / Skupaj (n)
	Never / Nikoli	Rarely / Redko	Sometimes / Včasih	Always / Vedno	Multiple times / Večkrat	
Before pregnancy	25(5)	28(5)	128(24)	256(48)	96(18)	533
In 1st trimester	71(14)	62(12)	130(25)	205(40)	49(9)	517
In 2nd trimester	74(14)	65(13)	119(23)	197(39)	58(11)	513
In 3rd trimester	143(28)	64(12)	89(17)	162(32)	58(11)	516

Legend / Legenda: n – number / število; % – percentage / odstotek

**Table 4:** Satisfaction of women with their sex life and partnership  
**Tabela 4:** Zadovoljstvo žensk s spolnim življenjem in partnerstvom

Period / Obdobje	n (%)				Sum / Skupaj (n)
	Very unsatisfied / Zelo nezadovoljna	Unsatisfied / Nezadovoljna	Satisfied / Zadovoljna	Very satisfied / Zelo zadovoljna	
Before pregnancy	11(2)	9(1)	217(41)	297(56)	534
In 1st trimester	34(6)	62(12)	254(48)	177(34)	527
In 2nd trimester	39(8)	75(14)	252(48)	157(30)	523
In 3rd trimester	68(13)	104(20)	218(41)	135(26)	525

Legend / Legenda: n – number / število; % – percentage / odstotek

**Table 5:** Sexual intercourse and fear  
**Tabela 5:** Spolni odnos in strah

Women's responses / Odgovori žensk	n	$\bar{x}$	s	Homogeneity of variance test / Preizkus homogenosti		t-test		
				F	p	t	df	p
YES	480	2.87	0.055	29.688	< 0.001	3.970	588	< 0.001
NO	110	4.36	0.136			3.584	147.071	< 0.001

Legend / Legenda: n – number / število enot;  $\bar{x}$  – average / povprečje; s – standard deviation / standardni odklon; F – Levene's test of homogeneity of variance / Levenov preizkus homogenosti variance; p – statistical significance / statistična značilnost; t – value of arithmetic mean inequality test / vrednost testa za preverjanje enakosti aritmetičnih sredin; df – the number of degrees of freedom / število prostostnih stopenj

was therefore confirmed ( $t = 3.584$ ,  $df = 147.071$ ,  $p < 0.001$ ) (Table 4 and Table 5). At the same time, the questions were also designed to show whether women enjoy sexual activity during pregnancy. Compared to the pre-conception period, when 92 % of women enjoyed sexual activity, only 57 % of them felt the same in the third trimester.

Hypothesis 2 stated that women with uncomplicated pregnancies were less frequently afraid of sexual intercourse during that time.

Taking into consideration the homogeneity of variance ( $F = 29.688$ ,  $p < 0.001$ ), independent samples *t*-test showed statistically significant differences between the pregnant women who did not experience any complications during their pregnancy and those who did ( $t = 3.584$ ,  $p < 0.001$ ) regarding their fear of sexual intercourse in pregnancy (Table 5). The pregnant women who did not experience any complications during their pregnancy ( $\bar{x} = 2.87$ ) were less frequently faced with fears related to sexual intercourse than the women who had complicated

pregnancies ( $\bar{x} = 4.36$ ). On the basis of the data obtained, hypothesis 2 was confirmed.

## Discussion

Our survey shows that women tended to attribute greater importance to sex before pregnancy, while during pregnancy its importance decreased. The results pertaining to our first research question show that the frequency of sexual intercourse decreases compared to the pre-conception period. According to Orji and colleagues (2002), couples agree that sexual intercourse is important for maintaining a good and harmonious partnership, but the study by Bello and colleagues (2011) reports that their pregnant participants showed a decreased interest in sexual intercourse during pregnancy. Some women supposedly avoid sexual intercourse in the last trimester (Makara-Studzińska, et al., 2015). In the present study, the percentage of women who engaged

in sexual intercourse in the second trimester was slightly higher than for women in their first trimester. According to Leite and colleagues (2009), women in the second trimester tend to enjoy sex more, as first-trimester symptoms such as nausea, vomiting, fear of bleeding are subsiding.

The reduced frequency of sexual intercourse in the third trimester is a consequence of a growing pregnant belly, which may cause discomfort and a feeling of awkwardness during coitus; moreover, pregnant women may experience fear of and/or pain during sex (Gokyildiz & Beji, 2005). The results of the present study confirm that two factors of women's decreased sexual desire during pregnancy are feelings of awkwardness and fatigue. Other reasons of lesser importance for the decrease or abstinence from sexual intercourse, according to our respondents, are inability to find a suitable sex position, nausea, fear that sexual intercourse might cause preterm labour, and lack of vaginal lubrication. Fears related to sexual intercourse have also been reported by international studies. For example, fear has been found to be statistically significantly related to pregnancy complications and to indirectly affect the couples' viewpoints on sex during pregnancy (Gokyildiz & Beji, 2005; Leite, et al., 2009; Sacomori & Cardoso, 2010).

Our study shows that the participants agreed to sexual intercourse with hesitation and that the rejection of sexual intercourse increased with each subsequent week of gestation. According to international studies, pregnancy brings about changes in the levels of sexual desire. In general, women admit that their desire has changed at least once during their pregnancy (Sossah, 2014). The results of our study show that the majority of respondents had experienced reduced sexual desire during pregnancy. In the first trimester, the reason for the reduced sexual desire lies in altered hormonal activity which causes lack of vaginal lubrication and reduced libido (Silveira, et al., 2013). In addition, nausea, fatigue, physical changes (Rauff & Downs, 2011) and a changed body image (Olusegun & Ireti, 2011) also influence sexual desire, particularly in the third trimester. As mentioned earlier, sexual desire may in fact increase in some individuals, and pregnancy can have a beneficial effect on achieving orgasm, especially in the second trimester. This may be due to increased blood flow to the genitals and breasts, which makes the sexual experience more intense (Makara-Studzińska, et al., 2015). The third trimester is a time of the lowest level of sexual desire (DeJudicibus & McCabe, 2002; Pauleta, et al., 2010) and this is when the highest percentage of women do not experience orgasm (Bello, et al., 2011). The results reported by Bello and colleagues (2011) are identical to those obtained by the present study; 28 % of women never experienced an orgasm in their third trimester of pregnancy.

The aim of our study was to find out how satisfaction with sexual intercourse changes during pregnancy. A review of the literature shows that sexual satisfaction

decreases with advancing gestation (Gokyildiz & Beji, 2005; Silveira, et al., 2013), as was also confirmed by the present study. It should be taken into consideration that a pregnant woman is under the influence of various metabolic and hormonal changes, which in turn trigger certain psychophysical changes that may also affect sexuality (Araújo, et al., 2012). From a psychological point of view, a pregnant woman might not be satisfied with her sex life due to emotional instability, a poorer self-image, a feeling of unattractiveness (Orji, et al., 2002), and a decline in her overall mood (DeJudicibus & McCabe, 2002). In addition, various physical changes affect the body image of a pregnant woman (Rauff & Downs, 2011), especially in the third trimester when, according to international studies, it seems to be at its lowest (Inanir, et al., 2015).

Healthcare professionals are reluctant to give advice on sexuality (Haboubi & Lincoln, 2003), although women expect and want open communication (Wendt, et al., 2011). Due to the psychophysically and socially complex influence of pregnancy on relationships, discussions about sex life during pregnancy are urgently needed. Therefore, we suggest that sexual education be included in prenatal care clinics. Since midwifery students prepare for this role during their studies (Mivšek, 2015), it would be useful for them (as midwives in practice offering continuous and individualised care) to address this topic with their pregnant clients.

The questionnaire was adequately completed by 685 women, which provides a sample large enough to generalise the results of the study and present the observed trends in relation to the studied problem in our geographical area for most variables. As our sample size was not representative, it was difficult to find significant correlations from the data for the Slovene population. Nevertheless, the results may still be widely applicable in supporting specific counselling on sexuality in Slovenia. The questionnaire with closed-ended questions also limited our ability to conduct a more in-depth investigation. We are also aware of the importance of hearing men's perspectives on sexuality during their partner's pregnancy and how it might affect them differently. Further studies on the current topic are recommended at national level.

## Conclusion

It should be noted that pregnancy affects the couple's sex life and that during pregnancy, sexuality may affect the overall relationship between partners. It is therefore important that relevant institutions and programmes (parenting classes) offer pregnant women the possibility to participate in discussions and counselling on sexuality. In order to transfer these research findings into practice, the authors consider it necessary to develop national guidelines and programmes for counselling couples on their sex life during pregnancy. The subject must be addressed with sensitivity, which requires time, intimacy,

and a non-judgmental confidential relationship between the healthcare professional and the woman. During appointments, midwives could assume an active role in providing couples with recommendations for sexual intercourse during pregnancy, advice on sexual positions, and also evidence-based information on unconventional sexual activities.

If we wish to gain an in-depth understanding of individuals' experiences, opinions and feelings, we should also adopt a qualitative research approach by using unstructured or semi-structured techniques and methods such as focus groups (group discussions), individual interviews, and participation/observation. All this should be regarded as a recommendation for future upgrading and improvement of our research.

### Conflict of interest / Nasprotje interesov

The authors declare that no conflicts of interest exist. / Avtorji izjavljajo, da ni nasprotja interesov.

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### Ethical approval / Etika raziskovanja

This retrospective study of anonymous entries was exempt of approval by the ethical committee. / Raziskava predstavlja retrospektivno analizo anonimiziranih podatkov in zato ni potrebovala posebne dovoljenja komisije za etiko.

### Author contributions / Prispevek avtorjev

All authors contributed equally to study design, literature search and writing the manuscript. / Vsi avtorji so enako prispevali k zasnovi raziskave, pregledu literature in pisanju besedila.

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