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Meaning of Sex for Pediatricians in Puerto Rico: A Misclassification Bias that Might Lead to Health Disparities if not Address

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Abstract

Understanding the meaning of the word 'SEX' has implications in the effort of eliminating health disparities in health services, and in clinical and translational research. Different studies showed that little is known about how people of varying ages define sex and how this perception can impact the health services that they can bring to their patients.

To our knowledge, this is the first study in Puerto Rico in a group of physician as Pediatricians to answer the research question, what beliefs about sex do pediatricians have? Assess attitudes about which sexual behaviours constitute having 'had sex' and to examine possible mediating factors (gender, age, giving/receiving stimulation, male ejaculation, female orgasm, condom use or brevity) as defined in a questionnaire used in the Kinsey Institute and translated to Spanish in Puerto Rico for a better understanding. With this study we wanted to provide a glimpse to the conceptions about 'SEX' that healthcare workers have because this will shape the questions and services offered to adolescents. A misclassification bias occurs. Persons are either incorrectly classified as having sex or incorrectly classified as not having sex. In term of females and males by age the YES answer was given to all the 14 questions in the survey.

Two of the questions, Q5 Penile-vaginal intercourse Spanish-Tuvo una relación sexual pene-vagina and Q9 Penile-vaginal intercourse with a condom? Spanish-Tuvo una relación sexual pene-vagina con condón were answered by 100% of participants as YES (having Sex). Questions #1 and #2 were the ones with the lowest response rate among males at 64.3% of all male participants. Appear to have significant difference by gender among participants pediatricians in terms of the perception of the meaning of sex among all the questions (14).

In general term among all the questions when taken as a whole there is A P=0.037 with 95% Confidence Interval of the Difference of 00340-010532. There appears to be a slight statistical difference by gender among pediatricians in terms of the perception of the meaning of sex among all the questions. The perception of pediatricians by gender is different, that is, men and women don´t think the same in general terms about the meaning of sex. Generally, there was no real consensus on which behaviors qualify as sex.

Keywords: Sex; Behaviour; Paediatricians; Healthcare

Introduction

Most of us think, have heard, or have talked about sex at some point of our lives. It is a key part of human evolution and reproduction. It is important to understand in term of health care delivery what is the meaning of the word 'SEX', and this has implications, also, for behavioral, clinical and biomedical research. It is important in our clinical environment as health professionals, specifically as pediatricians to avoid health disparities with adolescents [1].

Sexual activity is part of our interview to adolescent patients to understand about high-risk behaviour and to provide adequate treatment and/or education about this behaviour [1,2]. Health professionals need to understand their bias according this subject because it could affect the service provided to patients. This study intends to showed this bias on health professionals specifically on Pediatricians according to specific questions about "having sex". Once validated can be expanded to all health professionals to get a better idea of the misclassification bias and how to address it in the future.

Traditionally we have thought of sexuality as including sexual fantasy, masturbation, non-penetrative sexual acts, oral sex, vaginal intercourse and anal intercourse [1]. In the electronic age that we live now other activities are included in the sexual lexicon, including phone sex, sexting, sex in chat rooms, and virtual sex with the use of avatars [4]. This is the definition of sex that the American Academy of Pediatrics gives us. There is a problem in healthcare with classifying "sexually active" individuals. Many are either classified as not active but are and vice versa. This could potentially be a problem in the general population it is also important in the medical field [2].

There is a missclassification bias with these individuals that could bring about health disparities in the services offered. Understanding the significance of the word 'SEX' has implications for biomedical research, sexuality education and clinical practice. Published studies have reported that people not reporting a recent history of penile-vaginal sex will nonetheless test positive for sexually transmissible infections by urine assay [4]. A misclassification bias occurs. Persons

are either incorrectly classified as having sex or incorrectly classified as not having sex [3].

This research is important for developing adequate ideas about prevention strategies for major diseases and epidemics, because the healthcare provider bias will determine the approach related with these behaviour according with their experiences and believes [7,8]. What beliefs about sex do health professionals have and how this affects their service? And Could this cause health disparity? To our knowledge there is not a study done in Puerto Rico about what are the conceptions about the word 'SEX' and what it means in the general population, let alone in the healthcare professionals. With this study we wanted to provide a glimpse to the conceptions about 'SEX' that healthcare workers have because this will shape the questions and services offered to their patients. We decided to start with a subset of pediatricians in Puerto Rico because this professionals deal with a high risk population which are the adolescents.

Methodology

The research designed was a cross-sectional observational study. A questionnaire on Survey Monkey was designed and sent to the College of Physicians and Surgeons of Puerto Rico for dissemination by email to all pediatricians on their roster for an specific time. Additional demographics items as age and gender were also included as part of the questionnaire. To assess a profile of the UPH pediatrician perception about what they believe classify as sex, to validate questionnaire results in order to utilize this tool with a larger population of pediatricians [5].

To further expand the study to involve all health professionals a letter with all the information about the research was forward with every email to guarantee confidentiality and anonymity of the participants. The criteria of inclusion were: Being a pediatrician member of the College of Physicians and Surgeons of Puerto Rico, the sample 100 physicians, no compensation was offered and the data was protected and in possession only of the PI and Co-Investigator, who were completely blinded as to the identity of any of the participants. The research was divided in two different phases.

Phase 1

We used the questionnaire designed by Sanders et al. in their paper "Missclassification bias: Diversity in conceptualizations about having 'had sex' with the author's explicit written consent from the Kinsey institute [3]. They allowed us to use their questionnaire and to translate it to Spanish, which is the most spoken language in Puerto Rico. To do this we had to validate the tool.

We translated the questionnaire to Spanish with the help of a professional translator that establish the correct process of translation, from English to Spanish and from Spanish to English [5]. Described in a questionnaire specific behaviours and asked whether the subject considered this having sex or not. The validation process was completed with the administration of the questionnaire to a sample of Board Certified Pediatricians working in the University Pediatric Hospital in Puerto Rico.

Phase 2

We used the online platform Survey Monkey to upload the questionnaire. We added demographic information to be able to do analysis. The survey was distributed among pediatricians registered in the College of Physicians and Surgeons of Puerto Rico via email. Informed consent was waived and an informative letter in the email was given to ensure confidentiality of the participants. The survey was voluntary and anonimous and there was no way to identify the participants.

The information was kept with password protection and only the PI and Co-Investigator had access to it. This study was IRB approved. Expected population is 100 participants. To be included participants needed to be pediatricians enrolled in the College of Physicians and Surgeons of Puerto Rico.

Results

Phase 1

Cronchbach's Alpha based on standardized items was 0.814.

Phase 2

Eighty six (86) participants answered the survey giving us an 86% answer rate based on our target population. There were 43 females and 43 males in the survey. The data was divided in two age groups 25-55 having 49 participants and 56 and above having 32 participants. Please refer to (Table 1) Distribution of questionnaire answers (N=86). Generally, there was no real consensus on which behaviors qualify as sex.6

Conceptualizations about having 'had sex'	Yes	No	Missing
You touched, fondled or manually stimulated a partner's genitals?	69	31	2
A partner touched, fondled, or manually stimulated your genitals?	69	31	2
You had oral (mouth) contact with a partner's genitals?	95.2	4.8	2
A partner had oral (mouth) contact with your genitals?	94.2	5.8	0
Penile-vaginal intercourse?	100	0	0
Penile-vaginal intercourse with no ejaculation; that is, the man did not 'come'?	96.5	3.5	0
Penile-vaginal intercourse with no female orgasm; that is, the woman did not 'come'?	97.7	2.3	0
Penile-vaginal intercourse, but very brief?	96.5	3.5	0

Penile-vaginal intercourse with a condom?	100	0	2
Penile-anal intercourse?	95.3	4.7	0
Penile-anal intercourse with no male ejaculation; that is, the man did not 'come'?	95.3	4.7	0
Penile-anal intercourse with no female orgasm; that is, the woman did not 'come'?	96.5	3.5	1
Penile-anal intercourse, but very brief	93	7	0
Penile-anal intercourse with a condom?	96.5	3.5	0

Table 1: Distribution of questionnaire answers (N=86).

Comparison by age groups

In term of females and males by age the YES answer was given to all the 14 questions in the survey. Two of the questions, Q5 Penile-vaginal intercourse Spanish-Tuvo una relación sexual pene-vagina and Q9 Penile-vaginal intercourse with a condom? Spanish-Tuvo una relación sexual pene-vagina con condón were answered by 100% of participants as YES. Questions #1 and #2 were the ones with the lowest response rate among males at 64.3% of all male participants. Question #10: "… tuvo una relacion sexual pene-anal? Appears to have significant difference by gender and age among participants pediatricians in terms of the perception of penil-anal sex, 38 males *vs.* 42 females answered YES to this question (p=0.058), 7 of the 66+ age category *vs.* 72 of the other categories answered YES to this question (p=0.003).

Question #11: Penile-anal intercourse with no male ejaculation; that is, the man did not 'come'? Spanish- Tuvo una relación sexual pene-anal sin eyaculación masculina, esto es, el hombre no se vino "tuvo una relación sexual sin eyaculación masculina, esto es el hombre no se vino. Appears to have slight significant difference by gender among participants pediatricians in terms of the perception of the sexual relationship, 38 males and 42 females answered YES to this question (p=0.058). A CHI-Square showed that appears to have significant difference by gender among participants pediatricians in terms of the perception of the meaning of sex among all the questions (14). In general term among all the questions when taken as a whole there is A P =0.037 with 95% Confidence Interval of the Difference of 0.00340-010532

Discussion

There appears to be a slight statistical difference by gender among pediatricians in terms of the perception of the meaning of sex among all the questions. The perception of pediatricians by gender is different, that is, men and women don´t think the same in general terms about the meaning of sex. When asked about penile-anal intercourse appears to be a significant difference by gender and age. When asked about male ejaculation and don´t complete it appears to be a significant difference by gender but not by age. At least 1 participant answer as no sex in 13 of the 14 questions. Question #10 appears to have a statistical difference between gender and age groups (p=0.023) as to this behavior being considered sex. Question #11 appears to have a statistical significance between the gender category (p=0.05) as to this behavior being considered sex. Question #12 appears to have a statistical difference between age groups (p=0.05) as to this behavior being considered sex. Female pediatricians were more open to answer all questions than their male counterparts due to the lower participation numbers in the questionnaire. Male pediatricians answered ´YES´ to all questions about behaviours as sex. By age group, there is a difference in the question 10 and 12 were the 25-55 age group *vs.* 56 and older age group that considered these behaviours to not be sex

Conclusion

With this study we can reach some conclusions which are very interesting. The perceptions of pediatricians about what behaviors can be catalogued as sex is slightly different between genders. Female pediatricians were more open to answer all questions, in contrast with their male counterparts that had a much lower participation rate per question. There was no a general perception on which behaviours constituted having 'had sex'. These findings highlight the need to use behaviour-specific terminology in sexual history taking, sex research, sexual health promotion and sex education. Researchers, educators and medical practitioners should exercise caution and not assume that their own definitions of having 'had sex' are shared by everybody.

We chose this population as a pilot group for the eventual expansion of the study because the definition is from the AAP, and this profession deals directly with high risk populations as are teenagers for example. We were surprised by the results and this moves our research further forward to give education about such an important topic. Our perceptions about any topic will guide the questions we ask to someone else. This is extremely important in the clinical setting where high risk populations are being intervened. There should be no bias when asking this question to be able to provide the best service available to everybody eliminating any health disparity.

Our study has some limitations. First, even when we did get an 86% answer rate on an online survey based on our goal of 100 participants this is a small quantity of participants and it would be better with a bigger population. Second, our tool was a translation that even though it was validated as a good tool it still had to be translated to a different language and things may have been lost in translation. Third, our tool is missing numerous behaviors included in the definition by the AAP and it does not take into consideration the lesbian, gay, bisexual, transsexual, queer and intersex possible activities and behaviors that could enter the definition of sex by the AAP (vaginal-vaginal interaction for example).

Our future plans are to improve on this questionnaire and to distribute it to other health professionals in Puerto Rico to gain some knowledge about what educational activities should be offered to this professionals for improvement of health and avoidance of health disparities.

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