

# Knowledge and Acceptance towards Vasectomy in a Sample of Medicine Students, Meta 2018

## *Conocimientos y aceptación sobre vasectomía en una muestra de estudiantes de medicina, Meta 2018*

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### Abstract

**Introduction** The low adherence to vasectomy is associated with the cultural environment, with false beliefs, and with lack of knowledge. In Colombia, the practice of vasectomy increased 3% between 1990 and 2015. Medical education seeks to have an impact on the general population; therefore, medicine students should have knowledge and attitudes toward birth control that include a significant participation of the male gender.

**Objective** To describe the level of knowledge, beliefs, and acceptance of vasectomy in a sample of Colombian medicine students.

**Methods** Cross-sectional descriptive study, nonprobabilistic sample by convenience with a total of 112 medicine students from different universities of the country attending at a university event. A total of 20 dichotomous questions were used.

**Results** A total of 72.3% of the students answered correctly most of the answers; the knowledge level was grouped in high (53.35%), medium (41.07%), and low (5.35%). Up to 95.5% of the students recognized vasectomy as a male birth control method. Regarding beliefs, > 99% considered that family planning is not just a responsibility of women, although only 75% of the men would accept undergo a vasectomy.

**Conclusions** Colombian medicine students have a good level of knowledge about vasectomy, they recommend performing the surgery, and recognize the active participation of males in contraception; nevertheless, a higher willingness to perform a vasectomy would be expected from this population. Training on the subject would break barriers about beliefs and promote proper counseling in birth control consultations.

### Keywords

- ▶ vasectomy
- ▶ contraception
- ▶ acceptance of health care
- ▶ family planning
- ▶ knowledge
- ▶ Colombia

### Resumen

**Introducción** La poca adherencia a la vasectomía se asocia al entorno cultural, falsas creencias y bajo conocimiento. En Colombia, su prevalencia incrementó 3% entre los años 1990 y 2015. La educación Médica busca tener impacto sobre la población general, por lo cual el estudiante de medicina debe tener conocimientos y actitudes

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**Palabras claves**

- ▶ vasectomía
- ▶ anticoncepción
- ▶ aceptación de la atención de salud
- ▶ planificación familiar
- ▶ conocimiento
- ▶ Colombia

sobre la planificación familiar, que incluya una participación significativa del sexo masculino.

**Objetivo** Describir el nivel de conocimiento, creencias y aceptación de la vasectomía en una muestra de estudiantes de medicina colombianos.

**Métodos** Estudio descriptivo transversal, muestra no probabilista por conveniencia de 112 estudiantes de medicina, de diferentes universidades del país asistentes a un evento universitario. Se emplea instrumento de 20 preguntas dicotómicas.

**Resultados** El 72,3% de los estudiantes acertó correctamente en la mayoría de las respuestas, se agrupó nivel de conocimiento en alto 53,35%, medio 41,07% y bajo 5,35%. Hasta un 95,5% reconoció la vasectomía como método de planificación masculina. En cuanto a creencias, más del 99% manifiesta que la planificación familiar no es responsabilidad solo de la mujer, aunque sólo el 75% de los hombres aceptó realizarse la vasectomía.

**Conclusiones** Los estudiantes de medicina colombianos tienen un buen nivel de conocimientos sobre vasectomía, recomiendan su realización y reconocen la participación activa masculina dentro de la anticoncepción, sin embargo, se esperaría una mayor disposición, por parte de esta población, a la realización de la vasectomía. La capacitación sobre el tema puede romper las barreras de creencias y promover un adecuado asesoramiento en las consultas de planificación familiar.

## Introduction

The World Health Organization (WHO) defines family planning (FP) as “the ability of individuals to anticipate and attain their desired number of children, the interval between them, and the time of their births; as well as the decision of both men and women to select their contraceptive method”.<sup>1,2</sup> Since 1994, at the International Conference on Population and Development in Cairo, an equitable role for men and women for FP was determined.<sup>3</sup> Likewise, at the London Summit, the need to ensure that 69 of the poorest countries in the planet would have a total coverage of FP by 2020 was determined. Notwithstanding, from the total of women in the world that wish to avoid pregnancy, 225 million do not use any contraceptive method, a phenomenon that diminishes statistics of developing countries, where there still is the belief that FP is matter that concerns exclusively women.<sup>4</sup>

Even considering that vasectomy is a surgical birth control method that is minimally invasive, inexpensive, and with failure rates < 1%, there is only a 2.4% record of use at a global level.<sup>5-7</sup> The procedure has few surgical complications, which are associated to localized inflammatory processes, and its relation with prostate cancer has been refuted.<sup>8</sup>

The attitudes of Colombian men regarding vasectomy do not differ from the global perception; in fact, figures from the Departamento Administrativo Nacional de Estadísticas (DANE, in the Spanish acronym) reveal that between 1990 and 2015 the practice of vasectomy only increased 3%, while female surgical sterilization (FSS) increased 14%. Since 2010, surgical sterilization in our country is free for both men and women > 18 years old;<sup>9,10</sup> it is possible that there could be a negative association regarding vasectomy, whether due to a cultural context or to lack of knowledge about the method,

both by the part of the general population and of the health care personnel.<sup>6</sup>

General practitioners, being the gateway to the Colombian health system and promoters of primary health care, are responsible for providing information and education to patients about vasectomy.<sup>11</sup> Medical education in Colombia aims that future health professionals are capable of promoting health in order to have an impact on the general population; therefore, medical students should have knowledge and attitudes about FP, which include a significant participation of the male gender. On this basis, the present study aims to describe the level of knowledge, the beliefs, and the acceptance of vasectomy in a sample of Colombian medicine students, which will serve as a benchmark for the realization of projects that focus on this issue with more precision, and for the development of strategies that allow to generate more adherence to FP programs and an increase of their coverage.

## Methods

Cross-sectional descriptive study. Medicine students of any Colombian university attending at the Multidisciplinary Research and Service University Camp (Campamento Universitario Multidisciplinario de Investigación y Servicio [CUMIS, in the Spanish acronym]), from March 23 to 27, 2018 at the municipality of Puerto Gaitán, Meta; individuals > 18 years old of both genders were included. Nonprobabilistic sample by convenience with a total of 112 students.

Participants of other health areas and those who did not sign the informed consent form were excluded. The objective of the present research and of the work instrument was

explained in person to each participant. After the participants gave their approval, they signed the informed consent form and completed the survey, with the participation of one member of the interviewing team trained to answer all the doubts. The collection instrument comprised 28 variables grouped in 4 domains: sociodemographic characteristics, knowledge, beliefs, and acceptability of vasectomy. It included 20 dichotomous nominal qualitative questions of yes or no and of true or false. The questions were based on a collection of surveys previously validated in other research projects. Questions 6, 7, 9, 10, and 11 were obtained from the study by Ebeigbe et al.<sup>12</sup> To classify the level of knowledge, we obtained a percentile distribution of the correct number of questions by participant, out of a total of 14. The degree of knowledge was grouped into 3 groups; a high level of knowledge was defined as those who answered correctly between 11 and 14 questions (between 78.5 and 100%), a medium degree of knowledge was defined as those who answered correctly between 7 and 10 questions (between 50 and 71.4%), and a low degree of knowledge was defined as those who answered correctly  $\leq 6$  questions ( $\leq 42.8\%$ ). The Comité de Ética e Investigación Científica (CEINCI, in the Spanish acronym) of the Universidad Industrial de Santander approved the present research project. The data was coded, tabulated, and processed using Microsoft Excel 2010 (Microsoft Corporation, Redmond, WA, USA), where a quantitative analysis was made through a simple frequency technique.

## Results

A total of 112 medicine students participated, of which 46.4% ( $n = 52$ ) were male and 53.6% ( $n = 60$ ) were female. All of them said they were single, and only two had children. The average age of the respondents was 20.6 years old, with a range between 18 and 28 years old. The average academic level was 6.3 semesters of medicine, with a mean of 7 semesters. More than half of the sample (54.5%) stated that they practiced a religion.

Out of the total sample, 72.3% of the students answered correctly most of the responses; by groups, 53.35% had a high knowledge of vasectomy, 41.07% had a medium knowledge, and 5.35% had a low knowledge. The study showed evidence that a high level of knowledge was more or less proportionate

to the current academic level ( $\rightarrow$  Fig. 1). The correct concepts of most of students corresponded to the recognition of vasectomy as a male contraceptive method that does not prevent the spreading of sexual transmission diseases (STDs) and also does not have negative consequences in sexual desire or male erection ( $\rightarrow$  Fig. 2). The issues with the most incorrect responses from the students were related to the comparison between male surgical sterilization versus FSS; 49% ( $n = 55$ ) of the students did not know the difference between the monetary cost of both procedures; in addition, slightly more than half (54%) of the students were able to recognize that vasectomy, in contrast with FSS, has less postoperative complications; also, there was little clarity regarding the surgical technique, such as the type of anesthesia used.

Regarding the beliefs that medical students have about vasectomy, 99% ( $n = 111$ ) recognized that FP is not only a responsibility of the women. When comparing the answers from groups that practiced some type of religion versus those who practiced no religion ( $\rightarrow$  Table 1), the nonreligious students dismissed any repercussion of vasectomy on their masculinity and did not consider the opinion of others (e.g., their friends) important in order to decide whether to use it or not as a contraceptive method, while in the group of students that practice some type of religion, there was a slight tendency to recognize the importance of the opinion of others in the decision to undergo vasectomy. Regardless of practicing or not a religion, none of the students considered vasectomy as a sin.

Of the medicine students who participated in the study, 96.4% ( $n = 108$ ) accepted that they would recommend vasectomy to their patients and acquaintances; nevertheless, when the question was asked to the men ( $n = 52$ ), only 75% ( $n = 39$ ) would accept undergoing a vasectomy at some point in their lives.

## Discussion

We have found different researches in the literature that evaluate the knowledge, the attitudes, the myths, and the beliefs about vasectomy. Studies conducted in Africa and in Asia are in agreement that part of the barriers to increase the demand of vasectomy are found in the lack of basic knowledge about the procedure, about the follow-up requirements, or about the side-effects.<sup>6,13,14</sup> Based on what has been

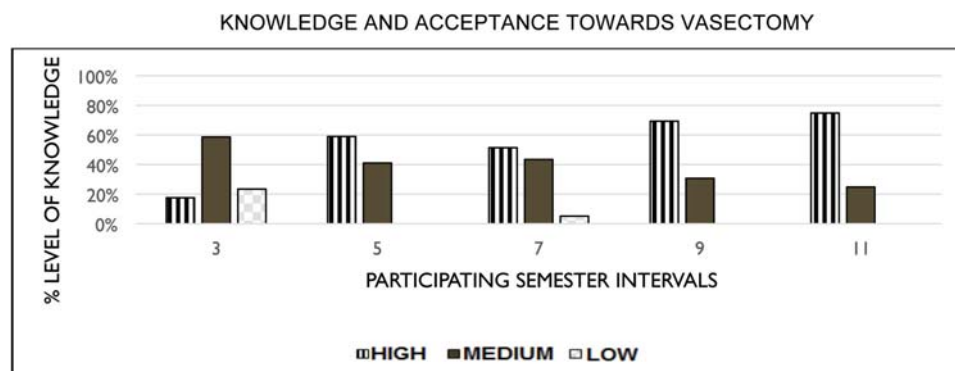


Fig. 1 Level of knowledge about vasectomy, according to the academic semester of medicine students, Meta, 2018. Source, authors.

**Fig. 2** Level of knowledge about vasectomy in medicine students, Meta, 2018. Source, authors. Abbreviations: CRF, cardiovascular risk factor; FSS, female surgical sterilization; OCPs, oral contraceptive pills; STDs; sexually transmitted diseases.

mentioned, we have evaluated in the present study the perception of medicine students of different levels, which allows us to have two visions: on the one hand, to know what is the preknowledge about vasectomy of the general population (lower level medicine students represent the general population), and, on the other hand, to evaluate the knowledge of health care personnel (upper-level students close to graduation). The results of the present research project

showed that, in general, the level of knowledge about vasectomy in medicine students is good (72.3% answered most of the questions correctly); additionally, we have found that the interviewed students did not have false beliefs about vasectomy regarding the influence in sexual desire, male erection, or effects in the testicular function. Nevertheless, there are some flaws in the knowledge about the surgical procedure, such as the type of anesthesia used, minor risks,

**Table 1** Responses to beliefs of medicine students about vasectomy, Meta, 2018

Questions	Students who belong to any type of religion (n = 61)		Students who do not belong to any type of religion (n = 51)	
	Yes	No	Yes	No
Should contraception be an obligation only for women?	1.6% (n = 1)	98.4% (n = 60)	0% (n = 0)	100% (n = 51)
Does vasectomy affect the masculinity of men?	1.6% (n = 1)	98.4% (n = 60)	0% (n = 0)	100% (n = 51)
Would you mind the opinion of your friends to perform a vasectomy or if you perform it to your partner?	8.2% (n = 5)	90.2% (n = 55)	0% (n = 0)	100% (n = 51)
Do you consider it a sin to perform a vasectomy?	0% (n = 0)	100% (n = 61)	0% (n = 0)	100% (n = 51)

Source, authors.

and the cost compared to that of FSS. These results are coherent with the level of education of the students evaluated.

The results obtained in the present research are similar to those reported by Moura Lopes et al, who recognized the importance of knowledge in birth control by health personnel. The referred study concluded that the knowledge of the nursing team "was not sufficient"; this study also found erroneous concepts, particularly in issues related to the complications in the vasectomy procedure, without recognizing, for example, bleeding as one of these complications.<sup>15</sup>

On the other hand, Ebeigbe and collaborators, in their research with gynecology residents in Nigeria, defined a good level of knowledge in their participants. Nevertheless, close to three quarters of the respondents affirmed that vasectomy affects the normal testicular functioning, one quarter of them believed that ejaculation could be impaired, and about one fifth felt that vasectomy is related to prostate cancer; in addition, only 5.8% frequently advised vasectomy.<sup>12</sup>

In contrast, at a national level, in a study conducted on inhabitants from neighborhoods in Cartagena, Fernández Aragón et al found that, in most of their participants, the levels of knowledge were categorized as acceptable and insufficient according to the guidelines established by the authors; however, the study noted that among the findings about myths and beliefs, 93.3% of the participants stated that vasectomy does not affect their own pleasure, neither the pleasure of their partner, nor causes any sexual impotence or premature ejaculation, and, in addition, 63% would agree to undergo the procedure, thus declaring a good percentage of acceptance.<sup>16</sup> In the same sense, a study conducted in the Colombian Armed Forces showed that, from 929 respondents, 62% would accept vasectomy as a planning method, despite showing superficial knowledge on this matter.<sup>17</sup>

In comparison, we have observed that the level of knowledge about vasectomy in different populations seems to be independent of the acceptance of this procedure as a birth control method.

Regarding the barriers to the acceptance of vasectomy, in Nigeria, a study published in 2009, applied over a general population of different educational and professional levels, evaluated the attitudes of men regarding vasectomy, in which 53.7% of the participants, who believed they had knowledge on the matter, associated this procedure to risks such as the inability to urinate, changes in their personality, accumulation of semen in the body, loss of libido, or weight loss or gain.<sup>18</sup>

Taking into consideration that religious beliefs and myths could represent a barrier for the acceptance of vasectomy, we have explored these issues in our study, which showed that medicine students do not have false beliefs, recognize that FP is the responsibility of both women and men, do not believe that the procedure would affect masculinity, and even most of them would recommend it to their relatives and acquaintances; in addition, when confronting the relationship between religious practice and its influence on certain beliefs, only a small percentage affirmed that the opinion of others was important to make the decision to undergo vasectomy. In comparison, 17.0% of the medicine students

from Malaysia considered that their religion prohibited vasectomy, and 49.4% affirmed that the procedure could be performed under certain circumstances, even if forbidden by their religion.<sup>19</sup> Despite the existence of a religious source about the opinion of medicine students, it does not seem to significantly affect the objective opinion toward vasectomy.

From the positive findings concerning the knowledge and beliefs of the participants of the present study, it would be expected that all of them would accept the procedure at some point in their lives; however, only 75% of the respondents would undergo vasectomy. This acceptance tendency is similar to that obtained by the population that is not part of the health community, as previously referenced.<sup>16,17</sup> Thus, therefore, there are undetected variables that influence this decision and that are worth being investigated.

When analyzing and comparing the aforementioned studies with the present research, we could affirm that health professionals have knowledge related to vasectomy, with some flaws regarding the surgical procedure and some of its possible complications. It is relevant to understand this situation, given that medicine students, residents, and nurses personnel are potential educators in promotion and prevention programs aimed at the general population.

## Conclusions

Colombian medicine students have a good level of knowledge about vasectomy, they recommend performing the surgery, and recognize the active participation of males in contraception; nevertheless, a higher willingness to perform a vasectomy would be expected from this population because, despite its good acceptance, not all participants would undergo vasectomy. Training on the subject would break barriers about beliefs and promote proper counseling in birth control consultations.

### Conflict of Interests

The authors have no conflict of interests to declare.

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