

DOI: <https://doi.org/10.56936/18290825-1.v19.2025-104>**KNOWLEDGE AND PERCEPTIONS ABOUT THE DIGITAL RECTAL EXAMINATION: EXPERIENCES IN COLOMBIA****RESTREPO GIL E., AGUIRRE CORREA L.A., CARDONA MAYA W.D.\***

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*Received 25.11.2024; Accepted for printing 11.02.2025***ABSTRACT**

*Prostate cancer is the leading cause of malignancy in Colombian men. Early detection through the combination of prostate antigen and digital rectal examination has been important; however, men refuse digital rectal examination on account of discomfort, embarrassment and fear of detection of cancer, among others.*

*Therefore, this study aimed to describe and analyze the knowledge and perceptions of the Colombian male population regarding digital rectal examinations.*

*A descriptive study was conducted through an anonymous and virtual survey of adult men between 2023 and 2024. The survey included variables such as age, sexual orientation, number of children, history of prostate diseases, relatives with prostate cancer, and experience and perceptions of digital rectal examination.*

*The study included 791 men with an average age of 36.85 years. The majority (84.20%) were heterosexual. Concerning prostate medical history, 0.76% had prostate cancer, 3.79% had benign hyperplasia, and 2.53% had prostatitis. A total of 16.69% had undergone a digital rectal exam at some point. The decision not to perform the digital rectal examination was mainly due to a lack of knowledge (49.32%), fear (5.61%), or other reasons (45.07%).*

*Although the Colombian male population has basic knowledge about the importance of digital rectal examination in the detection of prostate cancer, negative perceptions persist regarding the performance of this screening test. The main reasons for avoiding this test include ignorance, lack of medical advice, sociocultural barriers, fear, shame and misogyny. Therefore, health promotion and disease prevention programs must be strengthened based on the reeducation of medical professionals and patients to deconstruct self-destructive masculinity.*

**KEYWORDS:** rectal examination, prostate cancer, man, disease, health.**INTRODUCTION**

Prostate cancer is the second most common cause of malignancy in the male population and the eighth most common cause of mortality worldwide [World Health Organization, 2024a], with emotional and psychological burdens on the affected population, generally derived from stigmas that

persist with treatment and related to hegemonic social construction of masculinity [Medina-Coello E et al., 2009; Rivero A, Berrios R, 2016]. In Colombia, prostate cancer is the most common cancer in men and the second most common cancer in the general population, slightly surpassed by breast

**CITE THIS ARTICLE AS:**

**Restrepo Gil E., Aguirre Correa L.A., Cardona Maya W.D. (2025).** Knowledge and perceptions about the digital rectal examination: experiences in Colombia. The New Armenian Medical Journal, vol.19(1), 104-111; DOI: <https://doi.org/10.56936/18290825-1.v19.2025-104>

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cancer. In addition, prostate cancer represents the fifth cause of mortality due to malignancy in the country, after stomach, lung, colorectal and breast cancer [World Health Organization, 2024b]. Because approximately 50% of the world's population are men, prostate malignancy, owing to its high incidence, is a public health problem that generates significant costs for the health system and territorial socioeconomic dynamics [Gordon L et al., 2018]. There are biochemical, semiological and exploratory screening tools that facilitate early detection of prostate alterations by clinicians, avoiding fatal outcomes. Although prostate cancer is a serious and prevalent disease, it has a favorable survival rate of approximately 100% when it is treated in the early stages, indicating the importance of early diagnosis of this pathology [Ministerio de Salud y Protección Social, 2013; Villegas C et al., 2015; Bratt O, 2024].

Currently, the clinical practice guidelines for the early detection, diagnosis, treatment, follow-up and rehabilitation of prostate cancer in Colombia recommend early detection through the combination of the prostate-specific antigen test and digital rectal examination. For all symptomatic or asymptomatic men over 50 years of age who attend medical consultation, the above screening strategies can be carried out by any medical professional regardless of their level of specialization or referral center [Ministerio de Salud y Protección Social, 2013].

Rectal examination as a diagnostic tool dates back to ancient civilizations that used it to diagnose anorectal pathologies [Tebala G, 2015]. Later, owing to its anatomical relationship with the prostate, a simple, cost-effective and affordable strategy was found to evaluate alterations of this gland [Ying Y et al., 2023]. The biomarker prostate-specific antigen, also known as kallikrein-3, is a glycoprotein explicitly secreted by the prostate gland that participates in the liquefaction of semen after ejaculation, promoting sperm mobility, and a biomarker that, under benign or malignant pathological conditions, can increase its release and blood levels higher than 4 ng/dL [Sánchez-Martínez L et al., 2013; Ying Y et al., 2023]. Since its discovery around the 1980s and its subsequent authorization for the monitoring and early diagnosis of prostate cancer, this glycoprotein has become a routine screening strategy for this malignancy with significant socioeconomic implications due to its increased sensitivity detection and decreased patient discomfort during digital rectal

examination [Sánchez-Martínez L et al., 2013; Ying Y et al., 2023].

Both screening strategies (digital rectal examination and prostate-specific antigen), combined or independent, still present controversies before different health institutions around the world; some consider that they sometimes lead to unnecessary overdiagnosis and treatment, whereas others recommend that rectal examinations should be excluded because of patient discomfort and low sensitivity [Romero C et al., 2021; Ying Y et al., 2023].

Colombian medical regulations establish good clinical practice from the combined performance of both screening strategies [Ministerio de Salud y Protección Social, 2013]. Specifically, Colombian men reject digital rectal examination due to discomfort, shame, pain, and fear of cancer detection, as well as misinformation and lack of promotion in health entities [Arbeláez J, Montealegre N, 2012; Fajardo-Zapata A, Jaimes-Monroy G, 2016]. Therefore, this study aimed to describe and analyze the knowledge and perceptions of the Colombian male population regarding digital rectal examinations.

#### MATERIAL AND METHODS

**Study design:** A descriptive study was conducted through an anonymous and virtual survey of the adult male population via Google Forms and distributed through social networks between September 2023 and February 2024. The Bioethics Committee of the Medical Research Institute of the Faculty of Medicine, University of Antioquia, approved the study, all patients gave their consent before involving in the study.

The questions included variables such as age, sexual orientation, number of children, history of prostate diseases, family history of prostate cancer, history of digital rectal examination, and knowledge and perceptions of digital rectal examination. The inclusion criteria were male and over 18 years old, whereas the exclusion criteria were transgender men under 18 years old and answering the survey incompletely.

**Statistical analysis:** The median and range of each variable were used as measures of central tendency, and the Kruskal–Wallis and chi-square tests were used to compare the different groups via the statistical programs GraphPad Prism 9.0 (GraphPad, San Diego, CA, USA) and Jamovi (The Jamovi project, version 2.5), a  $p < 0.05$  was considered significant.

## RESULTS

Seven hundred ninety-one men participated in the study; the average age was  $36.85 \pm 14.77$  years (18-88 years), 84.20% of the volunteers (666/791) were heterosexual, and 40.46% (320/791) of the volunteers had children (1-8 children).

Six participants (0.76%) stated that they had been diagnosed with prostate cancer, 30 (3.79%) had been diagnosed with benign prostatic hyperplasia, and 20 (2.53%) mentioned having a medical history of prostatitis at some point in their life. Similarly, 59.17% did not know anyone close with prostate cancer (468/791), and 40.83% mentioned knowing someone close (323/791), including friends (57.28%, 185/323) and relatives (44.27%, 143/323). However, only 2.48% of those surveyed had an active diagnosis or suffered from the disease (8/323).

A total of 16.69% of the respondents (132/791) stated that they had ever had a digital rectal examination; this group of individuals was 20 years older than the group of men who had never had it ( $53, 81 \pm 15, 77$  vs.  $33.46 \pm 11.98$ ,  $p < 0.0001$ ). The age at screening initiation was  $43.55 \pm 13.37$  years. The average number of times that the digital rectal examination was performed was  $2.4 \pm 2.04$  (1-10 times), which is positively correlated with the age of the volunteers ( $r = 0.30$ ,  $p = 0.0006$ ). On the other hand, among those who had not undergone a digital rectal examination (659/791), 49.32% were due to a lack of knowledge (325/659), 5.61% mentioned that it was out of fear (37/659) and 45.07% was for other reasons (297/659), among which it stands out not being indicated either by age (34%, 101/297) or by the decision of the doctor (14.81%, 44/297). In addition, 47.91% of the men (379/791)

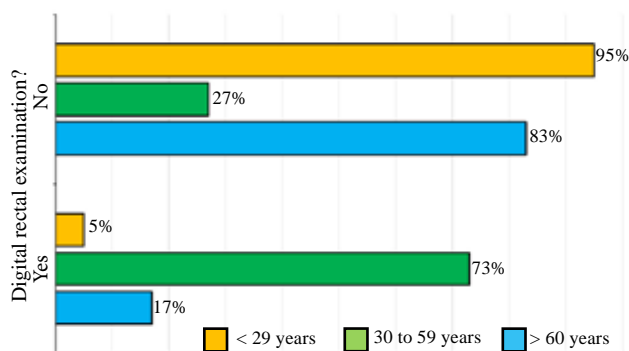
expressed that they feared being diagnosed with a disease through screening.

Additionally, when men are grouped by age (less than 29 years old, between 30 and 59 years old and over 60 years old), as expected, the percentage of men who undergo digital rectal examination increases. However, the percentage of men over 60 years of age who do not have digital rectal examination is high (Fig. 1).

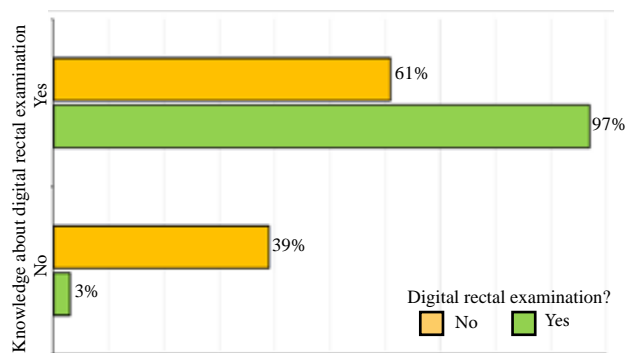
A total of 66.75% (528/791) of the participants knew the digital rectal examination. A total of 96.97% (128/132) of the men who underwent the exam know what the exam consists of, but only 60.70% (400/659) of the men who have not yet had the digital rectal examination know what it is about ( $p < 0.0001$ ) (Fig. 2).

When the participants were asked about their opinions about the relationship between performing a digital rectal examination and losing sense of masculinity, 91.53% said they disagreed with this relationship (724/791), whereas 8.47% answered affirmatively (67/791). The percentage of men who have taken the exam and believe that their masculinity is not affected was 93.94% (124/132), which is similar to its counterpart since 91.05% of those who have not yet performed the examination do not associate it with the loss of masculinity (600/659,  $p = 0.2838$ ). Under the above, if the doctor requests a digital rectal examination, 89.38% of the respondents would not feel violated (707/791), and 85.21% (674/791) would not feel ashamed of the procedure either.

Of the individuals who said they felt violated (84/791), 10 had the existence of other screening mechanisms, such as prostate-specific antigen, as their main reason; 17 reported that the digital rectal



**FIGURE 1.** Relationship between age and digital rectal examination results



**FIGURE 2.** Relationships between knowledge about digital rectal examination and the population that has or has not undergone the procedure



examination was embarrassing, uncomfortable and invasive; and 7 stated that they would feel violated by the fear of being touched or sexually abused.

When the participants were asked if the medical staff adequately explained the procedure on any occasion, 73.32% of the men (580/791) never received education from their treating physician, and 52.47% (415/791) of those surveyed said they did not know the benefits of digital rectal examination.

47.53% (376/791) of the participants answered affirmatively that the digital rectal examination could benefit them. However, more than a third of those surveyed believe that performing a digital rectal examination is no longer necessary due to the measurement of prostate antigen levels in the blood, transrectal ultrasound or other diagnostic methods. In this order of ideas and concerning the perception of the need to perform a digital rectal examination sometime in life, 86.98% of the participants (688/791) perceived it as necessary; however, paradoxically, 13.02% of participants (103/791) believed that it was not necessary, and these men were included in all age ranges  $37.91 \pm 15.67$  years (18-68 years).

Regarding the discomfort and pain that they would expect to have during the prostate exam, 64.1% of the participants said that they could have mild discomfort (507/791), 28.32% (224/791) reported no discomfort, and 7.59% (60/791) reported severe discomfort. In addition, when the groups were divided into those who did or did not undergo digital rectal examination, the percentages of patients with mild and severe discomfort decreased (Fig. 3).

On the other hand, when inquiring about the gender preferences of the treating physician when

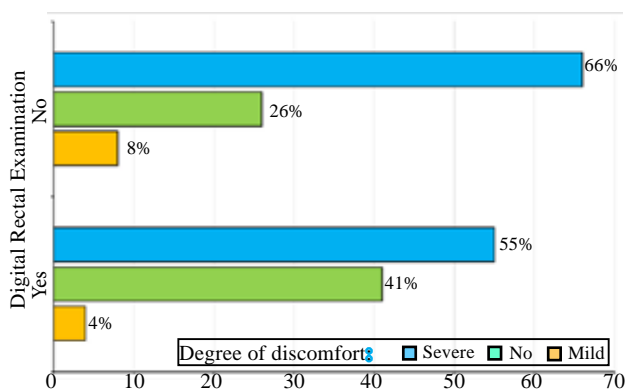
performing the digital rectal examination, 65.36% of the population is indifferent if the examination is performed by a man or a woman (517/791); 21.62% preferred a woman to do it (171/791), whereas only 13.02% preferred a man to do it (103/791).

Finally, when comparing the previous results in relation to the two most prevalent sexual orientations in the surveyed population, heterosexual and homosexual, the heterosexual male population ( $n=666$ ) is indifferent to the gender of the examiner in 65.92% (439/666) of the participants, whereas 10% (67/666) prefer that a man perform it, and 24.02% (160/666) favor women. On the other hand, among those who identify as homosexuals ( $n=75$ ), a similar percentage shows indifference toward the professional's gender (60%, 45/75), but 34.7% of this population (26/75) opts for men ( $p = 0.00046$  vs. 10% heterosexuals), and only 5.3% (4/75) prefer women (Table 4).

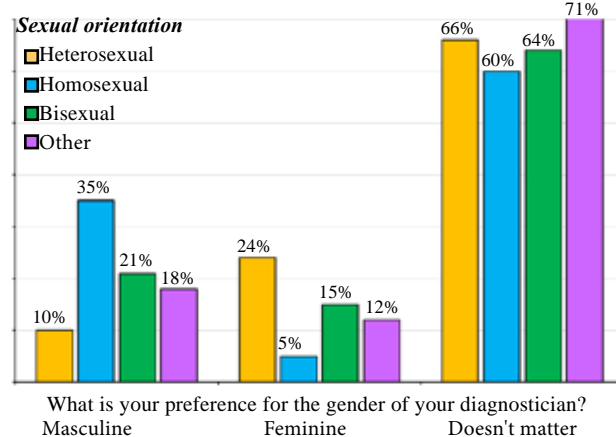
## DISCUSSION

This study assessed knowledge and perceptions about digital rectal examination in 791 mostly heterosexual men from Colombia. Less than one-fifth of the volunteers had ever undergone a digital rectal examination. Of all the men, only 0.76% had a history of prostate cancer, 3.79% of benign hyperplasia, and 2.53% of prostatitis.

Similar research has been conducted in Colombia but with a smaller sample size, including only the population over 40 years of age [Muñoz Astudillo M et al., 2011; Arbeláez J, Montealegre N, 2012; Fajardo-Zapata A, Jaimes-Monroy G, 2016; Castro Avendaño J, 2024]. The mean age in our



**FIGURE 3.** Relationships between expected discomfort during rectal examination in the population that has or has not undergone the procedure



**FIGURE 4.** Relationship between the sexual orientation and gender preference of the examiner

study was lower ( $36.85 \pm 14.77$ ) than that reported in previous studies, and nearly 50% of the population in these studies reported having undergone a digital rectal examination [Muñoz Astudillo M et al., 2011; Arbeláez J, Montealegre N, 2012; Fajardo-Zapata A, Jaimes-Monroy G, 2016; Castro Avendaño J, 2024], while in the present study, it was only 16.65% probably the participants in this study were men who were younger with no medical indication for routine screening.

The performance of the digital rectal examination was directly and positively correlated with the age of the participants; that is, the frequency of the digital rectal examination increased as the age range increased, a finding congruent with that reported by a recent study in the city of Bogotá [Castro Avendaño J, 2024] and that is based on current Colombian policies that determine the target population for prostate cancer screening 6.

On the other hand, among those who have not undergone a digital rectal examination, the reasons are similar to those reported by other studies. In Medellín [Arbeláez J, Montealegre N, 2012], ignorance, lack of money, discomfort and carelessness were the main reasons, which go hand in hand with those found in a study in Santa Rosa del Cabal, where the above reasons, in addition to misogyny, fear and religious beliefs [Muñoz Astudillo M et al., 2011] are added, and a more recent one in Bogotá [Fajardo-Zapata A, Jaimes-Monroy G, 2016], where the lack of medical advice and the feeling of denigration attracted attention. In the present study, lack of knowledge or information represented the highest percentage, followed by other reasons, such as lack of medical indication and age. Despite a low percentage, the manifestation of fear was present, which reinforces the community's need to receive timely and adequate information on the prevention of prostate cancer and digital rectal examination as a fast, safe and cost-effective medical tool to achieve an early diagnosis of prostate alterations and reduce negative perceptions and fears towards it.

Likewise, it should be noted that the fear of a possible diagnosis of prostate cancer is an essential determinant of the behavior of the male population, and this finding is shared with the results obtained through national and international investigations [Muñoz Astudillo M et al., 2011; Rivero A, Berrios

R, 2016; Fajardo-Zapata A, Jaimes-Monroy G, 2016; Castro Avendaño J, 2024; Castaldelli-Maia J et al., 2024]. Fear of a prostate cancer diagnosis is linked to the perceptions of severity that the male population has about the disease and the uncertainty generated by the lack of information, as well as taboos towards treatment [Muñoz Astudillo M et al., 2011; Rivero A, Berrios R, 2016; Almeida É et al., 2020; Castaldelli-Maia J et al., 2024].

Regarding the social construction of hegemonic masculinity and the sensation of loss of masculinity linked to digital rectal examination, the results are similar to those found in the available literature [Arbeláez J, Montealegre N, 2012; Fajardo-Zapata A, Jaimes-Monroy G, 2016]. Although the vast majority of respondents expressed disagreement with this relationship, a percentage of the population still feels their masculinity attacked by the performance of the test, a finding that is important in the present study, where the number of men who feel their masculinity violated by the digital rectal examination is found both in men who have not yet had it as in those who have already done it; this situation reflects misogynistic social dynamics independent of age in our society, a fact that is reinforced in various studies in Latin American countries, where the conception of hegemonic masculinity behaves as a risk factor for the early detection and treatment of chronic diseases, such as prostate cancer, and for the lack of disposition towards digital rectal examination [Rivero A, Berrios R, 2016; Paredes Ajalla AM et al., 2022; Contreras-Sánchez L et al., 2023; Castaldelli-Maia J et al., 2024]. The above represents the cornerstone of prevention and education campaigns, where the social deconstruction of self-destructive masculinities that end up going against self-care [Rivero A, Berrios R, 2016; Mendoza J, 2019; Reyes Vasconcelos L et al., 2020; Castaldelli-Maia J et al., 2024], should prevail in the education of the patient in search of men stop associating a preventive medical procedure with the feminization of their virility [Reyes Vasconcelos L et al., 2020; Castaldelli-Maia J et al., 2024] and the feeling of abuse.

The findings of this work are similar to those of other investigations in the Colombian territory and Latin America [Arbeláez J, Montealegre N, 2012; Fajardo-Zapata A, Jaimes-Monroy G, 2016; Mendoza J, 2019; Contreras-Sánchez L et al., 2023]. However, the percentage was slightly lower than

that reported in a study in Bogotá [Castro Avendaño J, 2024], where approximately 70% of the participants were aware of digital rectal examinations and prostate-specific antigens as screening strategies. Although the majority of respondents stated that they knew about the digital rectal examination procedure, reaching almost 100% of those who had already done so in the past, the fact that, among those who had not yet been screened, only a 60% was found to have basic knowledge, this accounts for the lack of dissemination from the public health area to ensure that the prevention message reaches the young male population, thus promoting the repeal of all social constructions towards digital rectal examination that are culturally perpetuated.

In addition, more than 70% of those surveyed, including all age ranges, stated that they had never received an explanation from health personnel about digital rectal examination. Additionally, more than 50% lacked knowledge about its benefits. However, as previously highlighted, prostate cancer is one of the leading causes of death for the male population in Colombia and the world [WHO, 2024a; 2024b].

Interestingly, although Colombian regulations are clear when establishing prostate cancer screening via prostate-specific antigen measurement and digital rectal examination as complementary strategies [Ministerio de Salud y Protección Social, 2013], a considerable percentage of respondents say that they do not consider digital rectal examination necessary because of the existence of a laboratory test. Thus, the role of the general practitioner is highlighted as a source of information for health and a fundamental axis in the prevention of diseases [Heins M et al., 2013]. These findings reveal the need for a doctor-patient relationship based on health communication, which, rather than treating diseases, seeks to educate individuals who are empowered by their health-disease processes and who act guided by current regulations.

On the other hand, the majority of the population did not show a gender preference towards the treating physician, which is compatible with the results of a study carried out in a German territory where 75.4% did not show a preference for the urologist's gender [Tamalunas A et al., 2021]; however, this finding differs from later findings reported by the same author, where more deeply, through a questionnaire that included 14 questions

about preferences, it was found that only 35% of the participants consistently answered that they had no preference about practitioner gender [Tamalunas A et al., 2022]. Recent studies reported that the preference for the gender of the urologist in consultation goes hand in hand with the gender of the patient; that is, men tend to lean towards professionals of the same gender [Orom H et al., 2014; Tamalunas A et al., 2021; Tamalunas A et al., 2022]. This was associated with the fact that the male population included in that study considered that men could better understand their bodies, had practical skills and that communication was more comfortable. However, and interestingly, this did not occur in the present study, since the population that preferred women was more remarkable. Only the homosexual population expressed a statistically significant inclination for male professionals. Notably, the aforementioned works were carried out in Europe, since data for Latin America have yet to be reported in this area. In this way, possible sociocultural aspects could play an essential role in the differences previously described. Consequently, this topic is presented as a field that has been little explored in Latin American urology and would benefit from further research.

In short, men are presented as a risk population for the late diagnosis of pathologies related to sexual and reproductive health owing to the perceptions and prejudices that they have about medical consultations and their association with “weakness” and loss of virility, added to the risk behaviors that their own social conceptions and gender roles generate in them. The foregoing is evident from what was found in this research, where the majority of the population considered that women are the ones who consult health services the most and who reinforce the need for health education in the male population, with the engagement of strategies that consider that the roles assigned to each sex significantly shape behaviors and that Latin American social dynamics continue to be strongly marked by the paternalistic culture and hegemonic masculinity [Abou Orm Saab K, Camacaro Cuevas M, 2013; Heins M et al., 2013; Reyes Vasconcelos L et al., 2020; Restrepo Gil E et al., 2022].

The limitations of this study are the self-reported characteristics of the questionnaire used, this may be linked to various types of bias that depend



on the participant's memory and introspection; however, recent evidence suggests that self-reports are a friendly and practical strategy that favors the sincerity of the participants on sensitive issues such as those related to sexual and reproductive health [Del Valle M, Zamora E, 2021].

### CONCLUSION

The performance of digital rectal examinations is more common in older men than in young men, which is consistent with the current regulations of the Comprehensive Health Care Routes.

The Colombian male population surveyed stated that they had basic knowledge about the importance of digital rectal examination in prostate cancer screening; however, negative perceptions and re-

marks regarding the performance of this practice and its relationship with the loss of masculinity continue to be present. Thus, the main reasons for not undergoing this test in Colombian men include ignorance, lack of indication by age or by a doctor, various sociocultural barriers, fear, shame and misogyny.

Points for improvement are highlighted in communication and education for health, as well as in the doctor-patient relationships of health personnel. Health promotion and disease prevention programs must be strengthened based on the re-education of medical professionals and patients to deconstruct self-destructive masculinity models, which are contrary to the early detection of diseases. Self-care and reducing these sociocultural barriers affect the health of men in Colombia.

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The Journal is founded by  
Yerevan State Medical  
University after M. Heratsi.



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*Our journal is registered in the databases of Scopus,  
EBSCO and Thomson Reuters (in the registration process)*



SCOPUS



EBSCO

REUTERS

**Copy editor: Tatevik R. Movsisyan**

LLC Print in "Monoprint" LLC

Director: Armen Armentaakyan  
Andraniks St., 96/8 Bulding  
Yerevan, 0064, Armenia  
Phone: (+37491) 40 25 86  
E-mail: [monoprint1@mail.ru](mailto:monoprint1@mail.ru)

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