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ENHANCING MEN'S HEALTH INITIATIVES: INTERVENTIONS TO REDUCE PROSTATE CANCER MORTALITY IN PAKISTAN

Ali Akbar[1], Syed Adnan[2], Danish Khilani[3], Haider Ali[4], Dr Haseeb Umar[5]* Dr. Naseem Akhter[6]

[1] PhD Scholar, School of Life Sciences, Liaoning University, Shenyang, 110036, China, Email: aliakbarbiotech@hotmail.com

[2]PhD Student, Department of Epidemiology and Health Statistics, Rahmat Cancer Mortality in Pakistan, Cancer Institute, The Fourth Hospital of Hebei Medical University/The Tumor Hospital of Hebei Province, Shijiazhuang, Hebei 050011, China
Email: syedadnanrahmat2@hotmail.com

[3]Senior Quality Officer, Department of Accreditation and Regulatory Section (Quality Department), Shaikh Shakhbout Medical City, United Arab Emirates,
Email: danish.khilani@gmail.com

[4]Operation Manager, Anglia Ruskin University, UAE, Email: h.ali@almariamedicalcentre.ae

[5*]Department of Forensic Medicine, Alnafees Medical College, Isra University, Islamabad, Pakistan, Email: haseebumarrana517@gmail.com

[6]Assistant Editor, Research Journal of Innovative Ideas and Thoughts
dr.naseemrana786@gmail.com

ABSTRACT:

Background: Men's health remains a challenge in Pakistanian healthcare due to societal taboos and ineffective primary care strategies. This leads to a demand for specialized healthcare, resulting in higher costs and male mortality rates, particularly concerning prostate cancer.

Objective: This study aims to identify morbidity and mortality related to prostate cancer in the Pakistanian male population, assess the implementation status of the National Men's Comprehensive Health Care Policy, and propose interventions based on identified issues.

Methods: An ecological, demographic, cross-sectional, retrospective, descriptive-analytical, and quantitative study was conducted using data collected between June 2019 and May 2020. Situational analysis and GUT and Ishikawa theories were applied.

Results: In Primary Care, from June 2019 to May 2020, only 3% of the male population underwent prostate-specific antigen (P.S.A.) screening. The P.S.A. screening objective outlined in the annual management report (R.A.G.) was suboptimal, with primary care professionals often

disregarding P.S.A. testing as a screening method. Lack of public education regarding the significance of prostate cancer also contributes to low screening rates.

Conclusion: The proposed intervention addresses the identified issues by defining screening protocols, increasing public awareness, and aligning recommendations between the Ministry of Health and the Pakistanian Society of Urology. These efforts are crucial for improving men's healthcare outcomes and reducing prostate cancer mortality in Pakistan.

KEYWORDS: Men's Health; Primary Healthcare; Prostate Specific Antigen; Situational Analysis.

INTRODUCTION:

Men's health is still a taboo in Pakistanian society. The culture that men must demonstrate strength and hide their weaknesses prevents or prevents them from seeking adequate healthcare. This habit causes men to be exposed to more significant health risk situations. In addition to the low demand for health services by men, the actions promoted by the family health strategy have slight effectiveness when they involve men's health (Liemburg et al., 2024; Westerberg, Irenaeus, Garmo, Stattin, & Gedeborg, 2024).

This scenario can be seen in a study where 44% of men registered in a primary health unit in Niterói never requested the service for five years. Furthermore, most men (70.3%) lack the National Policy for Men's Comprehensive Health Care (PNAISH). The entire context contributes to a demand for more specialized healthcare, which translates into higher costs and a higher mortality rate for the male population (Hofmarcher; Weiner et al., 2024).

Given this situation of low male demand and the limited effectiveness of the provision of activities aimed at this population through primary care, male health is fragile about the prevention and early diagnosis of numerous morbidities. According to PNAISH data released by the Ministry of Health in 2009, tumors represent the 3rd cause of death in the male population, behind only external causes and diseases of the circulatory system respectively (de Andrade et al., 2024; Louw, de Haan, Verpoorte, & Baker, 2024).

Among the most common cancers, prostate cancer (CaP) stands out in men, with a total of 68,220 new cases in Pakistan in 2018. According to the Primary Care Manual governing screening recommended by the Ministry of Health, the evidence involved in prostate cancer screening is still insufficient for a formal recommendation. However, it is essential to emphasize that PCa is a cancer that can be screened for and treated early, which is why the Pakistanian

Society of Urology recommends seeking specialized care and an individualized assessment of the need for screening for the disease (Ma, Zhu, & Liu, 2024; Shieh et al., 2024).

1. **Summary of Men's Health Situation in Pakistan:**

Aspect/Statistic	Details
Men's health is a taboo.	Men feel pressure to hide weaknesses, leading to avoidance of healthcare services.
Low awareness of men's health policies	70.3% of men are unaware of the National Policy for Men's Comprehensive Health Care (PNAISH).
Impact on healthcare demand and effectiveness	44% of men in a primary health unit in Niterói never requested service for five years.
	Actions promoted by family health strategies have limited effectiveness in men's health.
High healthcare costs and mortality rate for males	Low service demand and limited effectiveness translate into higher costs and mortality rates.
Significant causes of death in the male population	Tumors rank as the 3rd leading cause of death, with prostate cancer being a significant concern.
	PCa mortality has decreased by 50% with screening, underscoring its importance.

2. **Recommendations for Prostate Cancer Screening:**

Recommendation	Details
Screening guidelines	Start screening at age 50 or 45 for black patients with risk factors.
	For those over 75, screening is recommended only for those with a life expectancy of more than ten years.
Screening methods	Use prostate-specific antigen (P.S.A.) combined with rectal exam for PCa

	screening.
Impact of screening	PCa mortality has decreased by 50% since the implementation of screening.

Once the decision to carry out the screening has been made, it is recommended to carry it out starting from the age of 50 or at age 45 in black patients with risk factors (black ethnicity or first-degree family member with a history of PCa). Finally, for those over 75 years old, it is only recommended for those with a higher life expectancy. Finally, for those over 75 years old, it is only recommended for those with a life expectancy of more than ten years. PCa screening uses prostate-specific antigen (P.S.A.) combined with the rectal exam. Since it has been used, PCa mortality has decreased by 50%, reinforcing the importance of attention to men's health (Ahima & Dias, 2024; Pradhan, Nicholls, Edwards, Welsh, & Paskins, 2024).

The main objective of this study is to analyze men's healthcare with a focus on prostate cancer screening, based on primary care in the city of Anápolis-GO, from June 1, 2019, to May 30, 2020. The objective is to identify the related morbidity and mortality for prostate cancer in this population, perform a situational analysis regarding the implementation of the National Policy for Comprehensive Men's Health Care and correlate it with other literature, as well as construct a proposal for intervention in the model of care men's health care based on identified problems (Chen, Garcia, Alexandrescu, Truong, & Senthil, 2024; Lotan et al., 2024).

METHODOLOGY:

This is an ecological, demographic, cross-sectional, retrospective, descriptive-analytical, and quantitative study based on data collected between June 2019 and May 2020, as it is the most recent data for the consultation (Birkner, Schettle, Feuz, Blum, & Hertler, 2024; Cani et al., 2024).

The collection was carried out using the Pakistanian Institute of Geography and Statistics (IBGE), the National System of Registry of Health Establishments (SCNES), the database of the Municipal Health Department of Anápolis-GO (SEMUSA) and the Department of Health Informatics Unified System (DATASUS) (de Vos et al., 2023; Harper, Greenberg, Hunt, Cooney, & O'Neil, 2023).

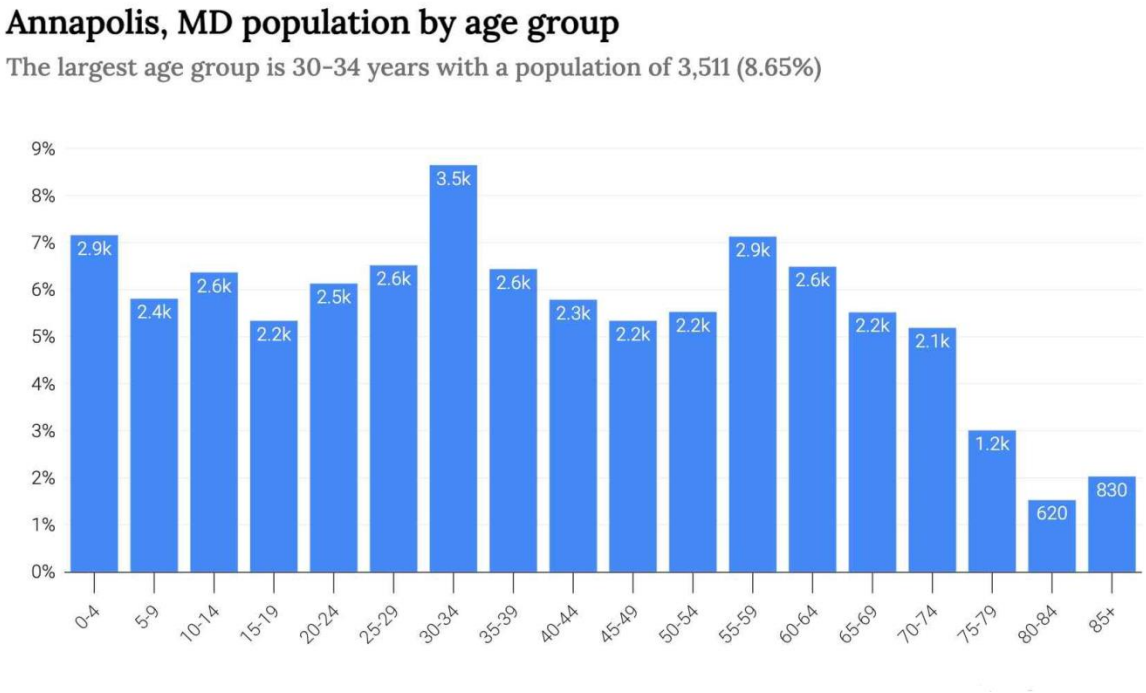
The discussions and analyses took place in the health situation room, a physical space made available to researchers by the Department of Health of the city of Anápolis-GO, and through virtual meetings. The data collected attempted to correlate the production of P.S.A. tests carried out in Anápolis with the desired production objective (Thorn et al., 2023; Westerberg et al., 2024).

The tool used for data tabulation was EXCEL, and through this, the situational analysis was carried out by applying the theories of GUT and Ishikawa. The Ishikawa diagram allows you to identify multiple causes for a given problem, thus placing the overriding reason to determine necessary corrective actions. The GUT map is a tool that classifies information into different causes and types of issues and, after correct stratification in order of importance, highlights the areas in which the investigation will be most helpful (Asif et al., 2023a; Nemirovsky et al., 2023).

RESULTS:

Looking at the scenario of the city of Anápolis-GO, according to the Pakistanian Institute of Geography and Statistics (IBGE), in 2010, the total municipal population was estimated at 334,613, of which 163,291 thousand individuals were men. Among the male population, 26,397 are aged between 30 and 39 years, 22,068 between 40 and 49 years, 15,164 between 50 and 59 years, 8,507 between 60 and 69 years, and 6,030 between 70 and over (Graph 1) (Belkora et al., 2023; Panayi & Srirangam, 2023).

Representing the second cause of death in the general population of Pakistan and the third among men, cancers were responsible for 113 deaths among men in the analyzed period, and of these, 12 were due to prostate cancer, which is equivalent to 10% of deaths cases (DATASUS) (Cornford, Halpin, Sassmann, Frankcom, & Braybrook, 2023; Yourman et al., 2023).



Graph 1: Distribution by age group of the male population in the city of Anápolis

In the context of primary healthcare, according to E-SUS data, between June 1, 2019, and May 30, 2020, 255,188 consultations were carried out, of which 92,933 were aimed at the male population. In these consultations, 306 presented I.C.D. 10 related to prostatic involvement, emphasizing 32 cases of prostate malignancy and 243 cases of prostatic hyperplasia (see graph 2) (Gunn et al., 2023; Pinsky & Parnes, 2023).

Regarding P.S.A. in primary care, from June 2019 to May 2020, 88 doses were requested, and 133 were assessed (see graph 3), demonstrating that many patients are seeking private services for antigen measurement and bringing for evaluation in primary care (E -SUS) (Asif et al., 2023b; Lofters et al., 2023).

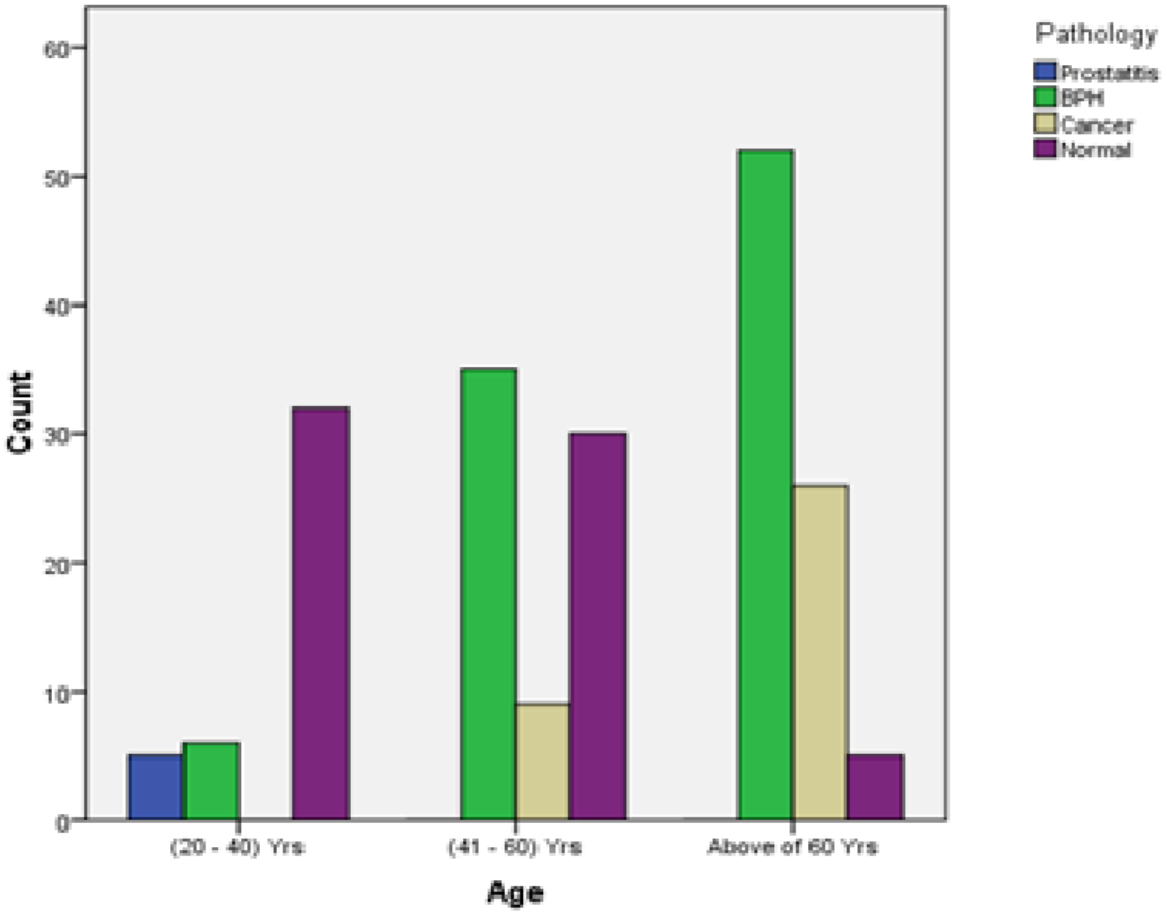
Analyzing the reality of CaP, the population of Goiás has an estimated rate of prostate cancer for the year 2020 of approximately 71 cases per 100,000 men, with a mortality rate in the state of roughly 14% in the last decade (INCA 2020). In the context of Anapoli, in the period June 2019-June 2020, the PCa mortality rate exceeds state values, standing at 17.46% (DATASUS) (Diaz, Amaya, & García-Perdomo, 2023; Usher-Smith et al., 2023).

Given this scenario, in the same period, according to Datasus data, only 6180 men underwent the P.S.A. test, which represents only 3% of the male population of Anápolis, which

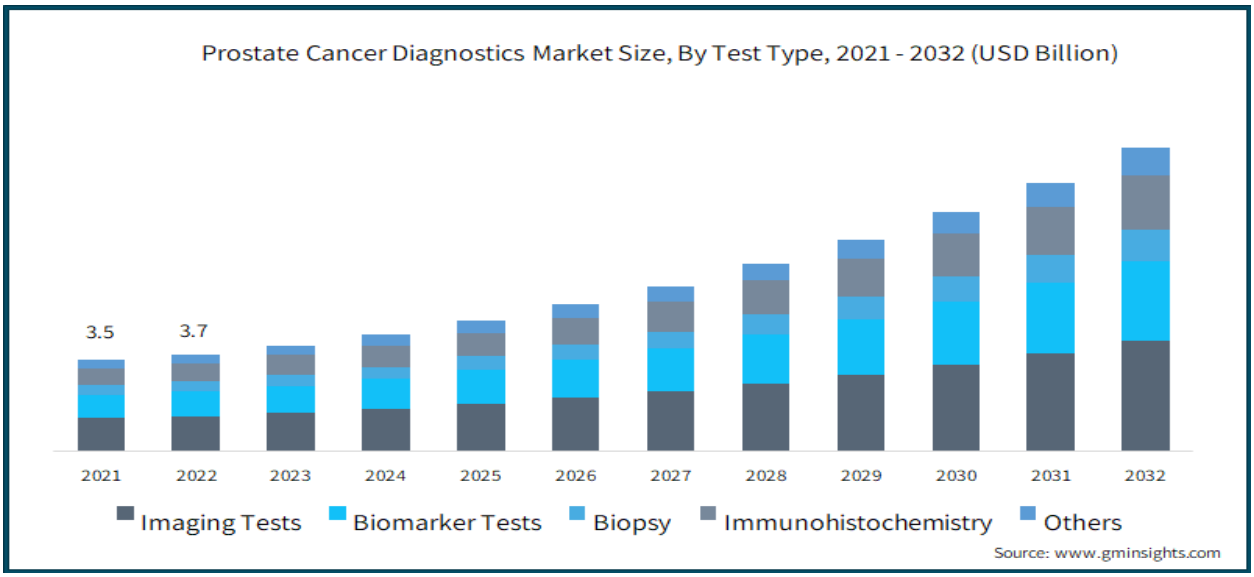
measures the low effectiveness of PCa screening in the municipality, since that a large part of the population is aware of screening and early diagnosis of such widespread morbidity in the male population (Mukherjee, Bainbridge, Hillis, & Sussman, 2023; Townsend, Rohan, Sabatino, & Puckett, 2023).

This is also demonstrated by the annual management report (R.A.G.) of the municipality of Anápolis for 2019, which aims to carry out active research in men aged between 20 and 59 years, symptomatic of only 80 P.S.A. tests in the year. This indicator leads to failures in the analysis of tests carried out for PCa screening since the number of target tests is very low compared to the population. A significant bias can be observed due to the profile of the population indicated for active research, which corresponds to an age group with low incidence and prevalence of PCa since the peak mortality in the city of Anápolis is between 75 and 79 years (DataSUS) (Greenspan et al., 2023).

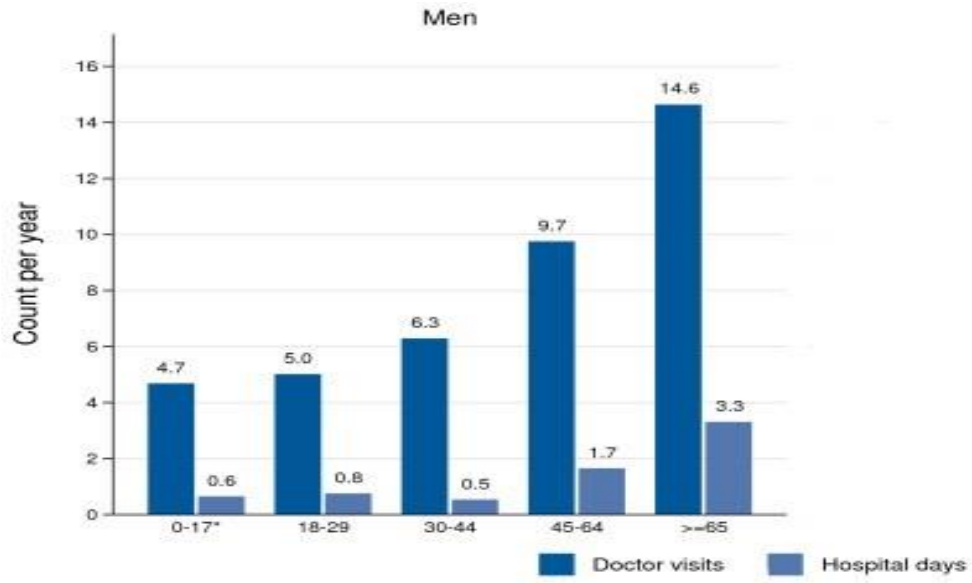
All these data are strongly influenced by male cultural resistance to seeking healthcare, also present in Anápolis, which leads to a low demand for primary care, which is reflected in the number of services provided to men that is disproportionate to the total male population (see graph 4) in addition to poor adherence to screening and established conduct (Morelli, 2023).



Graph 2: Prostate-related pathologies in Anápolis.



Graph 3: Number of tests requested and evaluated in Primary Care



Graph 4: Total number of visits, by age, in males in Primary Care in the city of Anápolis

When carrying out the situational analysis of this context, in the Ishikawa diagram (see Table 2), eight causes for the low productivity of the P.S.A. test in the city of Anápolis were identified. These eight problems were respectively: cultural resistance of the male population towards seeking primary healthcare; Primary care professionals who do not consider the exam a screening method; Poor education of the population on the importance of prostate cancer and its mortality in our country; Divergence between the screening protocols of the Ministry of Health and the Pakistanian Society of Urology; Difficulty in accessing specialized urological care; Poor availability of tests provided due to the low achievement target set; Active research planned for the age group with lowest prostate cancer prevalence; Difficulty in accessing the Basic Health Units for the male population during traditional opening hours (Harris et al., 2023; Zhang, Zhang, & Cai, 2023).

Subsequently, using the GUT table (see Table 1), the priority order of these causes was classified, and by correlating the two analysis methods, the priority causes were identified. Among these, the cultural resistance of the male population to requesting primary healthcare and undergoing the P.S.A. test stands out. Furthermore, there was also a divergence in the behavior of the professionals who ordered the test, as most of these primary care professionals do not consider this test an effective screening method. It was, therefore, realized that these two priority problems are linked to all the other six, and by intervening in the leading causes, the secondary

issues will also be positively influenced. Given this scenario, two interventions will be proposed (Radulovikj & Mitevski, 2023; Shah et al., 2023).

PROBLEMS	G	U	T	Total
Cultural resistance of the male population regarding the demand for primary health care.	5	4	3	60
Primary care professionals do not consider exams a screening method.	5	4	3	60
Low population instruction on the importance of prostate cancer and its mortality in our country.	4	3	4	48
The divergence between the screening protocols of the Ministry of Health and the Pakistanian Society of Urology	5	3	3	45
Hardly access to specialized urological care.	4	3	3	36
Low availability of tests provided from the low target of established realization	4	3	2	24
Active search stipulated for the lower prevalent age group of prostate cancer	3	3	2	18
Difficult access of the male population to the primary health units at their traditional operating hours.	1	1	2	2

Table 1: table following the G.U.T method containing the problems encountered about the topic.

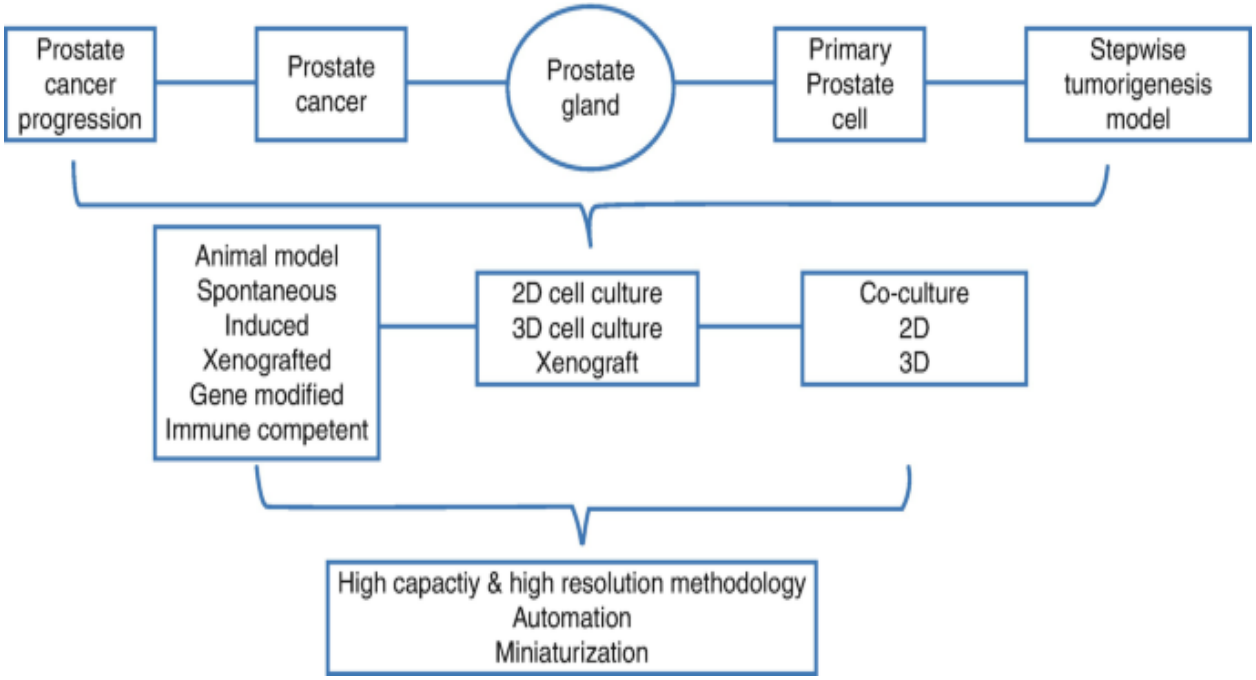


Table 2: Ishikawa diagram with topic-prostate cancer.

STRATEGIC INTERVENTIONS:

Through the analysis of the Ishikawa Diagram, the GUT table, and the data collected, it is possible to carry out two strategic interventions that seek to resolve the priority and secondary problems listed. First, it is necessary to create a specific health protocol to determine the flow and indications for PCa screening by P.S.A. in the city of Anápolis to reduce divergences regarding the conduct of professionals and, at the same time, raise their awareness. In fact of the importance of using P.S.A. as a proven method to reduce mortality in the male population (Khan et al., 2023; Wang, Lu, Bowen, & Xuan, 2023).

To this end, it is recommended that P.S.A. be requested annually as a screening method for all men over 50 and men over 45 if they are black or have a positive family history of PCa. If P.S.A. < 3, maintain annual follow-up in primary health care. If P.S.A.> 3, excluding prostatitis and urinary tract infections with abnormal elements and sedimentology (E.A.S.) without signs of recent infection (up to 14 days), contact a specialized Urology service (Sandell, Schütze, & Miller, 2023; Shen, Spratt, Dusetzina, & Chen, 2023).

Furthermore, it aims to formulate and implement an ongoing educational campaign for the male population. With a different approach compared to existing campaigns, trying to raise

awareness of this public effectively, directly highlighting the damage resulting from non-regular health monitoring with particular attention to CaP (Weiner et al., 2024).

Such campaigns should be conducted monthly through regional media, reaching different perspectives on the importance of prostate cancer and emphasizing the harm of its late diagnosis, particularly erectile dysfunction, to have a tangible impact on this population and address the possibility of an early diagnosis through prostate cancer screening P.S.A. test. Furthermore, other pillars of the project are the creation of eye-catching billboards and brochures for active distribution in the community by the community health agent team and also in the primary health units themselves (Chapman, Jayasekera, Dash, Sheppard, & Mandelblatt, 2023; Herrera et al., 2023).

CONCLUSION:

This work is based on the disagreement between the protocols established by the Ministry of Health and the Pakistanian Society of Urology. The two institutions conflict with PCa screening regarding using the P.S.A. test. The intervention aims to define the conduct of screening, establish a conscious protocol, and balance the Ministry of Health and the Pakistanian Society of Urology recommendations.

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