

Awareness, interest, and willingness to undergo cancer genetic testing among university students: a cross-sectional survey

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Abstract

Background. This study examined university students' awareness, interest, and willingness to have cancer genetic testing to guide future prevention and implementation efforts.

Material and methods. A cross-sectional online survey included 446 university students in Kosovo. The study assessed awareness of cancer-related genetic testing, interest in learning about actionable inherited cancer risk factors, and willingness to undergo testing. Associations with sociodemographic variables were examined using chi-square tests.

Results. The participants showed moderate awareness of cancer genetic testing. Students at private universities were more aware than those at public universities (62.2% vs. 44.6%; $p=0.001$). Most students (87.7%) were interested in learning about inherited cancer risks, with women showing more interest than men ($p=0.013$). Willingness to be tested under ideal conditions was also high (87.5%). There were no significant links between outcomes and age, residence, income, household size, health insurance, having a family doctor, or perceived cancer risk.

Conclusions. Although awareness was moderate, university students showed high interest and strong willingness to have hereditary cancer genetic testing, suggesting significant unmet demand. These results highlight the need for targeted education, more genetic counseling, clear referral systems, and better clinical infrastructure to include cancer genetic services in national prevention and early detection plans, with a focus on fair access.

Keywords: behavioral epidemiology, cancer genetic testing, university students, willingness, awareness

Introduction

Cancer genetic testing can identify pathogenic or likely pathogenic germline variants associated with clinically meaningful cancer risk, which may be actionable in some settings. Inherited pathogenic germline variants that significantly increase the risk of specific malignancies are collectively termed hereditary cancer syndromes or hereditary cancer predisposition syndromes [1,2]. Cancer genetic testing utilizes genomic technologies for risk assessment, with next-generation sequencing (NGS) serving as a core platform in contemporary clinical molecular diagnostics due to its ability to enable high-throughput, comprehensive analysis of cancer associated genes [3-4]. Moreover, worldwide there are national biobanks such as Genomics England, FinnGen, the Indian Cancer Genome Atlas, and Japan's NCC Biobank that integrate genomic data with longitudinal clinical records to inform

screening strategies and personalized therapies [5-7]. In the Western Balkans, initial genomic testing was reported in the late 1990s, providing data on BRCA1/2 mutation spectra and frequencies in probands from 71 families, thereby establishing a foundation for subsequent personalized medicine initiatives in the region [8-10]. Subsequent studies have applied direct sequencing to cohorts with breast, ovarian, and colorectal cancer [11,12].

Evidence suggests that cancer genetic testing may support earlier detection and risk management, and may be cost-effective in selected settings [4], while also facilitating personalized risk assessment, cascade testing of relatives, and informed decision-making. Beyond technological capability and clinical infrastructure, effective integration of cancer genetic testing into routine care also depends on population level awareness, interest, and willingness to participate. In higher-income settings, awareness of genetic testing has generally increased, while in many lower-resource settings, knowledge and access tend to be lower and less evenly distributed [13-18]. In Kosovo, cancer control systems remain in development. Although a national screening initiative exists, population-wide screening is at an early stage, registry functions are evolving, and oncology diagnostics and treatment services are largely centralized at tertiary-level centers. Noncommunicable diseases represent a major burden of mortality in Kosovo, with cancer among the leading causes [19-21].

Molecular genetic testing currently appears to be available primarily through private laboratories rather than as a routine public-sector service. In some instances, samples may be sent abroad to obtain genetic results. Given these structural realities, any consideration of population-level genetic testing should be accompanied by investment in counseling capacity, quality assurance, clinical pathways, and workforce training to ensure equitable and ethical implementation. In this context, understanding public awareness and attitudes toward cancer genetic testing becomes essential and, within this defined scenario, allows exploration of implementation readiness independent of financial barriers. Evaluating awareness, interest, and willingness among university students provides insight into potential readiness for integrating genetic services within developing healthcare systems such as Kosovo, where young adults represent a future, health-literate population likely to influence preventive healthcare behaviors and emerging genomic practices.

Aim of the work

The aim of the study was to evaluate awareness, interest, and willingness to undergo hypothetical, cost-free cancer genetic testing among university students in Kosovo and to explore associations with sociodemographic factors in an implementation context.

Material and methods

A cross-sectional online survey was conducted among university students in Kosovo between October 2023 and March 2024 using an adapted questionnaire [22].

Participants were recruited from the University of Prishtina (public) and AAB College (private). Invitation emails containing a survey link were distributed via institutional email channels. No incentives were offered for participation. Eligibility criteria included current student enrollment and age ≥ 18 years. The survey was anonymous, and participation was voluntary. Informed consent was obtained electronically on the first page of the questionnaire before proceeding.

As the number of students who received or opened the invitation email could not be determined, a response rate was not calculated. To reduce duplicate entries, the survey platform allowed only one submission per account.

The questionnaire was obtained directly from the original authors with permission [22] and subsequently translated from English to Albanian with attention to linguistic and cultural accuracy, then back-translated to English. Discrepancies were resolved by consensus to ensure conceptual and semantic alignment. The revised questionnaire was pilot-tested to ensure clarity, comprehensibility, and appropriate completion time. As the questionnaire is an author-developed, multi-section survey assessing conceptually distinct domains (i.e. awareness, risk perception, and behavioral intentions), it was not intended to function as a single composite psychometric scale. Therefore, full psychometric validation of the total score was not applicable.

Within the survey instrument, cancer genetic testing was conceptualized as a hypothetical cost-free service offered to asymptomatic individuals to assess inherited cancer susceptibility. The instrument included multiple sections assessing awareness of genetic tests (yes/no), prior receipt of genetic testing among those aware of genetic testing (yes/no), interest in learning genetic risk (five-point Likert scale), and the likelihood of cancer genetic testing among those who have not received genetic testing (five-point Likert scale).

Sociodemographic data collected included age, gender, ethnicity, university type, household size and location (rural, suburban, or urban), income (categorized in six categories based on average wages in Kosovo), health insurance status, and whether they had a family physician. The questionnaire items assessing self-perceived cancer risk, interest in learning about genetic cancer risk, willingness to take free genetic tests, and willingness to share results with family members were measured using Likert-type response scales (five-point for perception and interest items, and an eight-point scale for willingness to share results), consistent with the structure of the original survey instrument. For analytical purposes, response Likert-type items (interest, willingness, and likelihood) were harmonized and collapsed, responses were grouped into three categories: negative (i.e. not interested/unlikely, strongly disagree or disagree), neutral (neither agree nor disagree), and positive (i.e. interested/likely, agree, or strongly agree).

We analyzed data on general awareness, interest, and willingness to have genetic testing for cancer risk. We examined possible links between these outcomes and sociodemographic factors such as gender, age, ethnicity, university type, household size, income, residence, health insurance, having a family doctor, and prior awareness of genetic testing. As this was an exploratory study, we used chi-square tests to check for associations. Chi-square assumptions were checked by reviewing expected cell counts, When expected counts were small, Fisher's exact test was used as appropriate. Descriptive statistics were reported as totals and percentages. Analyses were done with IBM SPSS Statistics (version 21), using a significance level of $\alpha=0.05$. Missing data were handled by analyzing only complete responses for each variable.

Results

The study surveyed 446 university students in Kosovo. Most were female (75.8%), aged 21-24 (42.4%), and of Albanian ethnicity (97.3%). Most attended the public University of Prishtina (67.9%), lived in urban areas (62.3%), and came from small households of 2-3 people (50.0%). Nearly half had a monthly household income of €501-1,500 (49.3%). Only 12.1% had health insurance, and 32.3% had a family doctor. Most participants perceived their comparative cancer risk as neutral (neither likely nor unlikely; 58.97%) followed by likely (19.73%) and unlikely (13.68%) (Table 1).

Overall awareness of cancer genetic testing services was evenly distributed (50.22% aware vs. 49.78% unaware). A statistically significant association was observed between

university type and awareness of genetic testing ($p=0.001$), with higher awareness among students from private university compared to public. No statistically significant difference was found across gender, ethnicity, age, household size, income, health insurance status, rurality, assigned family doctor, or comparative cancer risk (all $p>0.05$; Table 1).

Table 1. Descriptive characteristics by awareness of cancer genetic testing

Characteristics	Survey item: Genetic tests that analyze your DNA for potential cancer risk are currently available. Have you heard or read about these genetic tests?						
	Total*		No		Yes		p
	n	%	n	%	n	%	
Total	446	100.00	222	49.78	224	50.22	-
Gender							
Female	338	75.78	173	77.93	165	73.66	0.549
Male	104	23.32	47	21.17	57	25.45	-
Prefer not to say	4	0.90	2	0.90	2	0.89	-
Ethnicity							
Albanian	434	97.31	215	96.85	219	97.77	0.548
Other	12	2.69	7	3.15	5	2.23	-
University							
Public	303	67.94	168	75.68	135	60.27	0.001
Private	143	32.06	54	24.32	89	39.73	-
Age							
18-20	178	39.91	88	39.64	90	40.18	0.335
21-24	189	42.38	100	45.05	89	39.73	-
>25	79	17.71	34	15.32	45	20.09	-
Household (HH) size							
1 person	64	14.38	32	14.41	32	14.29	0.440
2-3 persons	223	50.11	103	46.40	120	53.57	-
4-6 persons	132	29.66	72	32.43	60	26.79	-
7 or more	27	6.07	15	6.76	12	5.36	-
Income							
<500 Euro	116	26.01	63	28.38	53	23.66	0.248
501-1,500 Euro	220	49.33	106	47.75	114	50.89	-
1,501-3,000 Euro	78	17.49	36	16.22	42	18.75	-
3,001-5,000 Euro	13	2.91	4	1.80	9	4.02	-
5,001-10,000 Euro	12	2.69	9	4.05	3	1.34	-
>10,000 Euro	7	1.57	4	1.80	3	1.34	-
Health insurance							
Yes	54	12.11	25	11.26	29	12.95	0.664
No	392	87.89	197	88.74	195	87.05	-
Place of residence							
Urban	278	62.33	136	61.26	142	63.39	0.762
Suburban	57	12.78	31	13.96	26	11.61	-
Rural	111	24.89	55	24.77	56	25.00	-
Assigned family doctor							
Yes	144	32.29	63	28.38	81	36.16	0.086

No	302	67.71	159	71.62	143	63.84	-
Comparative Cancer Risk							
Very unlikely	13	2.91	6	2.70	7	3.13	0.700
Unlikely	61	13.68	35	15.77	26	11.61	-
Neither likely nor unlikely	263	58.97	131	59.01	132	58.93	-
Likely	88	19.73	41	18.47	47	20.98	-
Very likely	21	4.71	9	4.05	12	5.36	-

Notes: *Totals may vary across variables due to missing responses and skip patterns of the questionnaire.

Table 2 presents students' interest in learning whether they have genetic risk factor for cancer that can be prevented or treated. Overall, interest was very high, with 87.67% of the participants reporting that they were interested, while 7.85% were neutral, and 4.48% were not interested.

A statistically significant association was observed between gender and interest in learning genetic cancer risk ($p=0.013$), with women demonstrating higher levels of interest compared to men. No statistically significant difference was found across ethnicity, university type, household size, income, health insurance status, rurality, assigned family doctor, or prior awareness of genetic tests ($p>0.05$).

Table 2. Descriptive characteristics by levels of interest in learning about actionable genetic cancer risk

Characteristics	Survey item: How interested would you be in learning whether you have a genetic risk factor for cancer that can be prevented or treated?								
	Total*		Not interested		Neutral		Interested		p
	n	%	n	%	n	%	n	%	
Overall	446	100.00	20	4.48	35	7.85	391	87.67	-
Gender									
Female	338	75.78	10	50.00	23	65.71	305	78.01	0.013
Male	104	23.32	9	45.00	12	34.29	83	21.23	-
Prefer not to say	4	0.90	1	5.00	0	0.00	3	0.77	-
Ethnicity									
Albanian	434	97.31	20	4.60	35	8.06	379	87.33	0.781
Other	12	2.69	0	0.00	0	0.00	12	12.67	-
University									
Public	303	67.94	16	80.00	27	77.14	260	66.50	0.233
Private	143	32.06	4	20.00	8	22.86	131	33.50	-
Age									
18-20	178	39.91	8	40.00	15	42.86	155	39.64	0.407
21-24	189	42.38	6	30.00	12	34.29	171	43.73	-
>25	79	17.71	6	30.00	8	22.86	65	16.62	-
Household size									

1 person	64	14.35	7	35.00	4	11.43	53	13.55	0.199
2-3 persons	223	50.00	10	50.00	19	54.29	194	49.62	-
4-6 persons	132	29.60	3	15.00	9	25.71	120	30.69	-
7 or more	27	6.05	0	0.00	3	8.57	24	6.14	-
Income									
<500 Euro	116	26.01	6	30.00	7	20.00	103	26.34	0.21
501-1,500 Euro	220	49.33	6	30.00	18	51.43	196	50.13	-
1,501-3,000 Euro	78	17.49	4	20.00	8	22.86	66	16.88	-
3,001-5,000 Euro	13	2.91	2	10.00	1	2.86	10	2.56	-
5,001-10,000 Euro	12	2.69	2	10.00	0	0.00	10	2.56	-
>10,000 Euro	7	1.57	0	0.00	1	2.86	6	1.53	-
Health insurance									
Yes	54	12.11	3	15.00	3	8.57	48	12.28	-
No	392	87.89	17	85.00	32	91.43	343	87.72	0.788
Place of residence									
Urban	278	62.33	12	60.00	25	71.43	241	61.64	0.807
Suburban	57	12.78	2	10.00	4	11.43	51	13.04	-
Rural	111	24.89	6	30.00	6	17.14	99	25.32	-
Assigned family doctor									
Yes	144	32.29	5	25.00	11	31.43	128	32.74	-
No	302	67.71	15	75.00	24	68.57	263	67.26	0.796
Aware of genetic tests									
Yes	222	49.78	7	35.00	21	60.00	194	49.62	0.216
No	224	50.22	13	65.00	14	40.00	197	50.38	-

Notes: *Totals may vary across variables due to missing responses and skip patterns of the questionnaire.

Under ideal conditions (free of charge, available in local clinic, and with online access to results), willingness to undergo genetic testing was very high among the participants (87.52%, Table 3). Only a small proportion reported being neutral (10.88%) or unlikely (1.58%) to take the test. No statistically significant difference was observed across gender, ethnicity, university type, age household size, income, health insurance status, place of residence, having and assigned family doctor, or prior awareness of genetic test (all $p>0.05$).

Table 3. Descriptive characteristics by likelihood of undergoing cancer genetic testing under ideal conditions

Characteristics	Survey item: To learn whether you have a genetic risk factor for cancer, you would need to make an appointment at a local clinic, get your blood drawn, and set up an online account to access your test results. Assuming there is no cost to you, how likely would you be to get this test?								
	Total*		Unlikely		Neutral		Likely		p
	n	%	n	%	n	%	n	%	
Overall	441	100.00	7	1.58	48	10.88	386	87.52	-
Gender									
Female	334	75.74	5	71.43	40	83.33	289	74.87	0.704
Male	103	23.36	2	28.57	8	16.67	93	24.09	-

Prefer not to say	4	0.91	0	0.00	0	0.00	4	1.04	-
Ethnicity									
Albanian	429	97.28	7	100.00	46	95.83	376	97.41	0.696
Other	12	2.72	0	0.00	2	4.17	10	2.59	-
University									
Public	300	68.03	5	71.43	36	75.00	259	67.10	0.353
Private	141	31.97	2	28.57	12	25.00	127	32.90	-
Age									
18-20	176	39.91	4	57.14	23	47.92	149	38.60	0.596
21-24	189	42.86	3	42.86	18	37.50	168	43.52	-
>25	76	17.23	0	0.00	7	14.58	69	17.88	-
Household size									
1 person	64	14.51	1	14.29	5	10.42	58	15.03	0.772
2-3 persons	220	49.89	4	57.14	27	56.25	189	48.96	-
4-6 persons	130	29.48	1	14.29	14	29.17	115	29.79	-
7 or more	27	6.12	1	14.29	2	4.17	24	6.22	-
Income									
<500 Euro	115	26.08	3	42.86	17	35.42	95	24.61	0.49
501-1,500 Euro	217	49.21	4	57.14	18	37.50	195	50.52	-
1,501-3,000 Euro	77	17.46	0	0.00	11	22.92	66	17.10	-
3,001-5,000 Euro	13	2.95	0	0.00	0	0.00	13	3.37	-
5,001-10,000 Euro	12	2.72	0	0.00	1	2.08	11	2.85	-
>10,000 Euro	7	1.59	0	0.00	1	2.08	6	1.55	-
Health insurance									
Yes	52	11.79	1	14.29	7	14.58	44	11.40	0.525
No	389	88.21	6	85.71	41	85.42	342	88.60	-
Place of residence									
Urban	275	62.36	2	28.57	29	60.42	244	63.21	0.097
Suburban	55	12.47	2	28.57	3	6.25	50	12.95	-
Rural	111	25.17	3	42.86	16	33.33	92	23.83	-
Assigned family doctor									
Yes	139	31.52	2	28.57	16	33.33	121	31.35	0.959
No	302	68.48	5	71.43	32	66.67	265	68.65	-
Aware of genetic tests									
Yes	219	49.66	3	42.86	19	39.58	197	51.04	0.297
No	222	50.34	4	57.14	29	60.42	189	48.96	-

Notes: *Totals may vary across variables due to missing responses and skip patterns of the questionnaire.

Discussion

Our data support a moderate awareness of genetic testing for cancer risk among university students in Kosovo (50.22%), along with high levels of interest (87.67%) and hypothetical willingness (87.52%) to undergo testing under ideal conditions. Awareness of cancer genetic testing was lower among public university as compared to their private college peers, whereas interest in learning one's genetic risk was lower among males but did not differ significantly by university type. Students at the private institution were much more

likely to have heard about hereditary cancer testing than those at the public university (62.2% vs. 44.6%, $p=0.001$). This suggests that differences in exposure to industry outreach or curriculum timing, rather than academic ability, may explain the gap in awareness.

The awareness rate observed in this study (50%) is lower than levels reported in studies from high-income countries. For instance, Roberts et al. [22] documented substantially higher awareness in the United States population, particularly among socioeconomically advantaged groups. They reported that awareness of, and interest in, hereditary cancer testing was higher within the group of students with higher income, education, and health insurance coverage, leaving lower resource groups markedly less engaged. Their findings highlight a pronounced socioeconomic gradient. In our student cohort, however, interest appeared evenly distributed across all sociodemographic backgrounds. These comparisons should be interpreted cautiously given differences in the population characteristic, healthcare infrastructure, and access to genetic services.

Studies among university-level populations similarly report that knowledge about hereditary cancer syndromes and genetic testing remains variable even within medically educated cohorts. In a cross-sectional survey of medical students ($n=404$), Nees et al. [23] found high perceived relevance and interest in cancer predisposition syndromes (CPS): 86.4% rated CPS knowledge as important/very important for their professional future, 79.0% expressed interest in caring for cancer patients, and 77.6% specifically expressed interest in caring for individuals with CPS. At the same time, important educational gaps were evident. While 74.3% reported awareness of CPS-specific surveillance programs and 71.5% awareness of CPS-related therapeutic recommendations, 59.4% were not aware that standard diagnostic or therapeutic procedures can be harmful in certain CPS contexts. Most participants (77.1%) had never encountered a person with CPS during training, highlighting limited experiential exposure [23]. Research among undergraduate students in other regions has also found that positive attitudes toward genetic testing often exceed objective knowledge levels. Hermanto et al. [24], in a 2024 cross-sectional study of Indonesian undergraduates, reported generally favorable attitudes toward genetic testing despite limited genetic literacy. This trend appears consistent across geographically distinct university settings, suggesting that receptiveness to genomic testing among young adults may be widespread, even when formal educational exposure remains limited.

Guertler et al. [25], in a cross-sectional survey among German general practice patients, likewise demonstrated a high level of acceptance toward genetic cancer testing, with 83.3% agreeing that such testing should be broadly available. The perceived benefits were

primarily prevention-oriented and clinically actionable, including guidance for screening frequency (81.4%) and support for medical decision-making (80.2%), while 75.2% recognized its relevance for understanding cancer risk in offspring. Importantly, however, notable concerns were also reported, such as 44.6% perceived testing as a potential burden for the family, 39.2% questioned the preventability of cancer, and 34.7% indicated that not wanting to know about an increased genetic risk constituted a significant reason against testing [25].

In low- and middle-income countries, levels of awareness and uptake of genetic testing vary substantially across populations and healthcare settings. In a Nigerian cross-sectional survey, Adejumo et al. [26] reported that approximately 86% of respondents expressed willingness to undergo germline genetic testing for cancer risk. However, when financial responsibility was introduced, willingness declined substantially, with only about 36% indicating readiness to pay out-of-pocket for testing. Cost was consistently identified as the principal barrier, alongside limited access to specialized genetic counseling services and infrastructural constraints within the healthcare system. A recent cross-sectional study from Palestine demonstrated moderate awareness but generally favorable attitudes toward genetic testing, while identifying knowledge gaps, limited counseling availability, and economic barriers as important constraints [27]. Across these diverse healthcare environments, high-income, transitional, and resource-constrained acceptance of hereditary cancer testing appears consistently high, whereas implementation readiness depends on structural context.

Gender emerged as a significant predictor of interest in our study. Female participants were significantly more interested in learning about cancer genetic risk ($p=0.013$). This is consistent with previous findings that women tend to engage more actively in preventive healthcare behaviors and genetic counseling participation [13,24]. Studies show women frequently serve as health information coordinators within families, particularly regarding hereditary cancers such as breast and ovarian cancer [25,28]. Interestingly, gender was not associated with willingness under ideal testing conditions. This suggests that while women may express greater curiosity or proactive interest, structural removal of barriers (cost, accessibility) may equalize behavioral intent across genders.

The combination of high willingness and moderate awareness suggests that Kosovo's primary challenge may be structured public education, capacity-building in genetic counseling, development of referral pathways, quality assurance mechanisms, and ethical governance frameworks. International experience demonstrates that population-level genetic screening initiatives require pre-test education, informed consent infrastructure, counseling

workforce, clear management algorithms for pathogenic findings, and cascade testing systems [1,2,18]. Without these elements, interest alone does not translate into safe and effective implementation. Furthermore, countries that have successfully integrated genomic services, such as through Genomics England or FinnGen, have paired molecular testing expansion with registry systems and longitudinal monitoring frameworks [5,6]. This systemic integration remains an important long-term goal for emerging healthcare systems. Recent qualitative investigations into consumer perspectives on hereditary cancer testing emphasize that individuals often perceive genetic testing as empowering yet may underestimate its limitations and potential uncertainties. Kilbride et al. reported that while participants valued access to hereditary cancer risk information, many desired clearer explanations of clinical validity, actionable findings, and follow-up pathways [29]. This is particularly relevant in the context of our findings, where high levels of interest and hypothetical willingness may coexist with incomplete understanding of test interpretation, probabilistic risk, and downstream clinical implications. Without adequate pre-test education and structured counseling, enthusiasm for testing may outpace informed decision-making, potentially leading to unrealistic expectations or misinterpretation of results.

While genetic testing technologies such as NGS are increasingly central to precision oncology [2,3,30], their clinical utility in prevention depends on service integration rather than technological availability alone. In Kosovo, oncology services are largely centralized, and infrastructure remains under development [19,20]. These structural realities should be considered during early planning phases to avoid inequitable distribution of genomic services. If hereditary cancer testing is expanded in the future, phased implementation beginning with high-risk groups rather than generalized screening would align better with international recommendations [1,2].

Strengths and limitations

This study has several strengths and limitations. It focused on a defined population of university students and used an adapted survey instrument based on a previously published study to assess awareness, interest, and willingness to undergo cancer genetic testing within the same analytical framework. However, the voluntary nature of participation introduces the possibility of self-selection bias, as students with greater interest in genetic testing may have been more likely to respond, potentially leading to overestimation of support. The analysis primarily examined sociodemographic factors and did not explore psychosocial, cultural, or

attitudinal determinants underlying perceptions of genetic testing, limiting causal inference. Future research should expand to more diverse population groups and incorporate qualitative and implementation-oriented approaches to better understand structural and behavioral barriers to the uptake of cancer genetic testing.

Conclusions

University students in Kosovo exhibit moderate awareness but consistently high interest and willingness to undergo hereditary cancer genetic testing when financial and logistical barriers are removed. These findings suggest that public readiness for genomic risk assessment may exceed current system preparedness. The primary limitation appears to be insufficient informational exposure rather than resistance to genetic services. Gender differences in interest align with established patterns of preventive health engagement.

From a policy perspective, this latent demand should be approached through structured and phased implementation rather than rapid expansion. Integration of hereditary cancer testing into national health strategies requires coordinated development of genetic counseling capacity, clear referral and triage pathways within primary care, laboratory quality standards, and transparent governance frameworks aligned with international guidelines. Workforce training and standardized clinical protocols will be essential to ensure appropriate indication-based testing, result interpretation, and follow-up management.

Pilot programs targeting defined high-risk groups may provide an evidence base for gradual scale-up, while public education initiatives should accompany service development to ensure informed participation and equitable access. Aligning expressed population interest with clinical infrastructure and regulatory oversight will be critical to translating genomic readiness into safe, effective, and sustainable cancer prevention policy.

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The study was conducted in accordance with the Declaration of Helsinki and the European Code of Conduct for Research Integrity and was approved by the Ethics

Committees of the Faculty of Medicine, University of Prishtina (Ref. No. 4379; May 25th, 2023), AAB College (Ref. No. not applicable; May 25th, 2023), and the Kosovo Medical Chamber (Ref. No. 103/2023; June 21st, 2023). Informed consent was obtained from all the subjects involved in the study.

Artificial intelligence (AI) was not used in the creation of the manuscript.

The data that support the findings of this study are not publicly available due to privacy restrictions but are available from the corresponding author upon reasonable request.

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