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ASSESSING HPV VACCINE KNOWLEDGE AND BEHAVIOR IN MEDICAL STUDENTS

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ელენე ფაღავა, შამს სამიჰ ალბარარი, ელენე ხაჩიძე, მარიამ მუმლაძე, მარიამ ანჯაფარიძე,

HPV ვაქცინასთან დაკავშირებული ცოდნისა და ქცევის შეფასება სამედიცინო უნივერსიტეტის სტუდენტებში

თსსუ ეპიდემიოლოგიისა და ბიოსტატისტიკის დეპარტამენტი, საქართველო

რეზიუმე

შესავალი. ადამიანის პაპილომა ვირუსი წარმოადგენს ჯანმრთელობის მნიშვნელოვან პრობლემას. ამ კვლევის **მიზანს** წარმოადგენდა თბილისის სახელმწიფო სამედიცინო უნივერსიტეტის სტუდენტებში HPV ვაქცინაციის შესახებ ინფორმირებულობის შეფასება, ვაქცინის გაკეთების სიხშირის შეფასება და იმ ფაქტორების გამოვლენა, რომლებიც ვაქცინაციის განხორციელებაზე გავლენას ახდენს.

მასალები და მეთოდები: ერთმომენტიანი კვლევით მოხდა თბილისის სახელმწიფო სამედიცინო უნივერსიტეტის 247 სტუდენტის გამოკვლევა. მონაცემების შეგროვება განხორციელდა ონლაინ კითხვარის მეშვეობით, ანალიზი ჩატარდა პროგრამა Stata 14.0-ის გამოყენებით, აღწერითი და ანალიტიკური მეთოდებით.

შედეგები: HPV-ის გადაცემის მექანიზმების შესახებ ცოდნის დონე იყო მაღალი (97.98%), თუმცა, სქესის მიხედვით აღინიშნა სტატისტიკურად დამაჯერებელი სხვაობა პასუხებში ვაქცინაციის ასაკთან (p=0.036), დაცვის მოცულობასთან (p=0.014) და გვერდითი მოვლენების ცოდნასთან (p<0.001) დაკავშირებით. ასევე გამოვლინდა ფაკულტეტთაშორისი განსხვავებები ვაქცინის მოქმედების ხანგრძლივობის ცოდნაში (p=0.014). ვაქცინაციის მაჩვენებელი იყო დაბალი (19.03%) და განსხვავდებოდა ფაკულტეტების მიხედვით (p=0.025). მომავალში ვაქცინაციაზე უარის თქმის მაჩვენებელი მნიშვნელოვნად მაღალი იყო ქალ სტუდენტებში (p<0.001). გადაწყვეტილების მიღებაზე სხვადასხვა ფაქტორი ახდენდა გავლენას: სამედიცინო ფაკულტეტის სტუდენტები მეტად ეყრდნობოდნენ ინფორმაციას, მიღებულს მშობლებისგან (p=0.001) და გაგონილს ლექციებზე (p=0.011), ხოლო ჯანდაცვის ფაკულტეტის სტუდენტებზე უფრო მეტად ზემოქმედებდნენ მეგობრები (p=0.019). ძირითადი ბარიერები იყო ვაქცინაზე ხელმისაწვდომობის აღქმული ნაკლებობა, რაც უფრო ხშირად აღინიშნებოდა სამედიცინო ფაკულტეტის სტუდენტებში (p<0.001), და ვაქცინის საჭიროების ნაკლებად აღქმა, რაც უფრო მეტად იყო გავრცელებული ჯანდაცვის ფაკულტეტის სტუდენტებში (p<0.001).

დასკვნები: მიუხედავად იმისა, რომ სტუდენტების უმეტესობამ იცის HPV ვაქცინის შესახებ, აღინიშნა სხვაობა ცოდნასა და პრაქტიკულ ქცევას შორის. რეკომენდებულია შესაბამისი კამპანიების წარმოება და სტუდენტების ცნობადობის გაზრდა.

Introduction. Human Papilloma Virus (HPV) represents one of the most prevalent sexually transmitted infections globally, causing nearly all cervical cancers and significant proportions of other malignancies [6]. Prophylactic HPV vaccines demonstrate >90% efficacy against targeted high-risk types. Because medical students are future healthcare providers who fall within the recommended vaccination age, understanding their knowledge gaps and vaccination uptake is crucial for developing targeted interventions.

Objective. This study aimed to evaluate HPV vaccine awareness among students at Tbilisi State Medical University and identify factors influencing vaccination uptake.

Materials and Methods. A cross-sectional study was conducted at Tbilisi State Medical University (Tbilisi, Georgia) during January–March 2024 to assess HPV-related knowledge and attitudes among

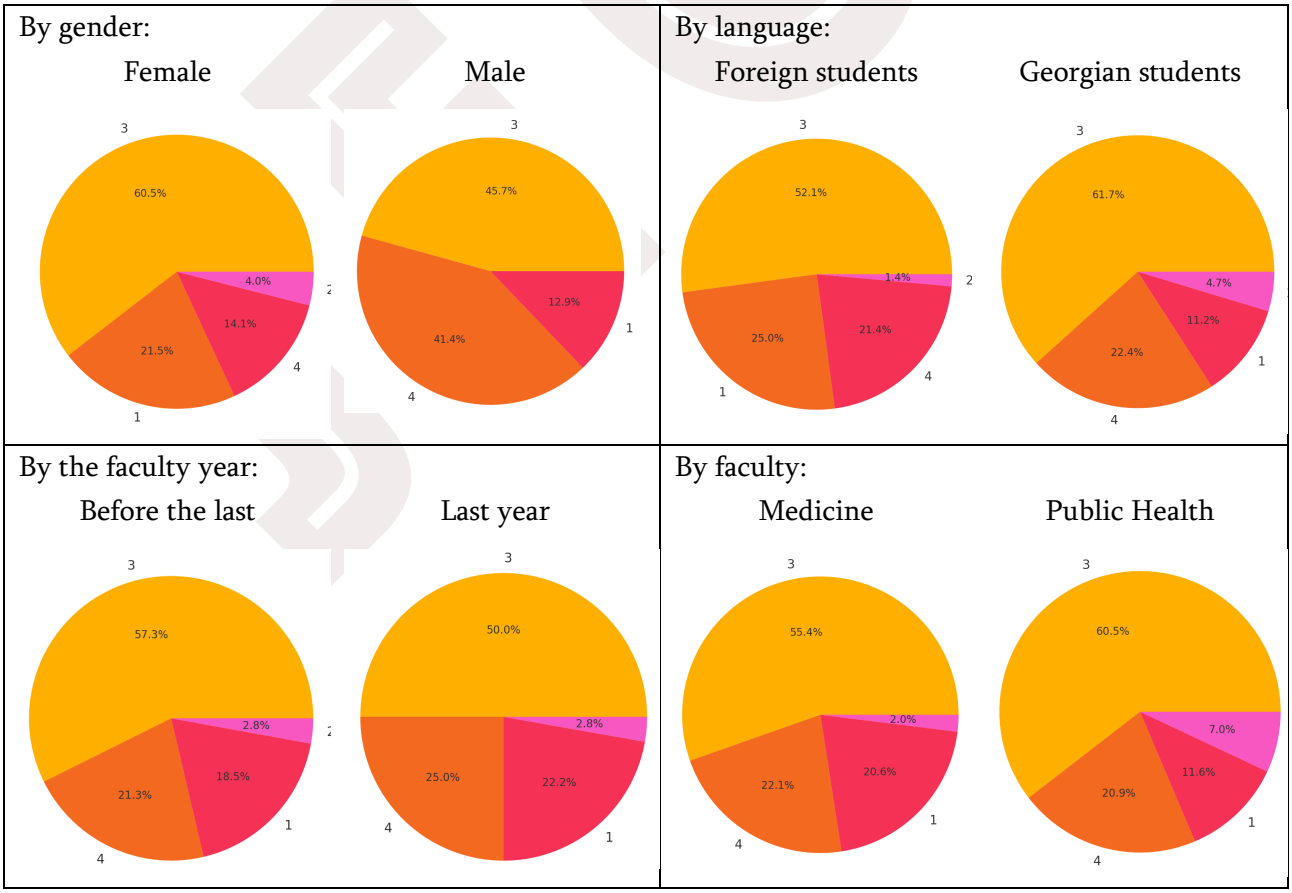
medical students. Using cluster random sampling, 247 students (97 Georgian, 140 international) were selected into the sample (71.66% male, 28.34% female, mean age 22.36±1.48 years). Participants were from the English (56.7%) and Georgian (25.9%) Faculties of Medicine, and the Faculty of Public Health (17.4%). Bilingual (Georgian/English) online questionnaire containing 18 questions was administered via Google Forms. Participation was voluntary and anonymous. The questionnaire was developed based on the literature analysis and approved at the Department of Epidemiology and Biostatistics. Data analysis, using Stata 14.0, included descriptive statistics and analytical statistics, with $p<0.05$ considered significant.

Results. 97.98% correctly identified sexual contact as HPV's primary transmission route, while 85.43% knew the vaccine was not female-specific. Significant gender differences were detected in answers to the knowledge questions. Males outperformed females in determining the recommended vaccination age (57.63% vs 42.86%, p=0.036), recognizing the vaccine does not protect against all HPV strains (75.71% vs 60%, p=0.014), and identifying potential side effects (79.10% vs 55.71%, p<0.001). Faculty differences were notable regarding vaccine protection duration, with medical students scoring higher than public health students (46.43% vs 23.36%, p=0.014).

Vaccination awareness was high (97.98%). Public Health students relied more on social media as a source of information (48.6% vs 25.71%, p<0.001) and friends (22.43% vs 8.57%, p=0.002), while medical students predominantly used lectures. Interestingly, 7.14% of medical students reported never hearing about vaccination versus 0% of Public Health students (p=0.005).

Current vaccination rates (19.03%) showed gender (21.47% F vs 12.86% M, p<0.001) and faculty differences (25% medical vs 11.21% Public Health, p=0.025). Exact data are shown on Figure 1.

Figure 1. Responses to the question „Have you had the HPV vaccine?“ by different grouping variables. Answers were: (1) Yes, both doses; (2) Yes, one dose; (3) No, but I plan to; (4) No and I'm not going to.



Future intentions revealed 60.45% of males planned vaccination versus 45.71% of females, while refusal was higher among females (41.43% vs 14.12%, p<0.001) and Public Health students (22.43% vs 21.43%, p=0.025).

Decision-making factors showed medical students were more influenced by parents (15% vs 2.80%, p=0.001) and lecture information (44.63% M vs 27.14% F, p=0.011), while Public Health students more often decided independently (49.53% vs 28.57%, p=0.001) and were influenced by friends (11.21% vs 3.57%, p=0.019). Barriers included greater access difficulties among medical students (25% vs 0.93%, p<0.001), particularly in the medical faculty subgroup (17.16% vs 2.33%, p=0.012), and more Public Health students believing vaccination unnecessary (63.21% vs 35%, p<0.001). Additional barriers were lack of awareness (82.19%), fear of side effects (52.63%), and cost concerns (14.98%), with parental opposition significantly affecting medical students (15% vs 2.80%, p=0.001) and print media as well (12.14% vs 2.80%, p=0.008).

Discussion. This study reveals high HPV awareness (97.98%) among medical students, superior to non-medical populations [13], yet knowledge gaps persist. Only half understood transmission routes, aligning with moderate international levels [14] versus >65% elsewhere [3,5,13], contrasting Morocco's 1.50% STI recognition [12]. Low male-related awareness reflects global misconceptions about vaccine availability for men [7,14] and alternative transmission modes [8]. Vaccination rates align with international ranges below 10% in many countries [1-3,5] but higher elsewhere [4,8,11,14]. Faculty type determined information sources; medical students favoured lectures, while non-medical students used social media and friends. Females showed superior HPV knowledge similar to many studies [1,2,4,5,14] and higher vaccination rates, demonstrating greater cervical cancer awareness [11] and vaccine knowledge [4,5,14], though males showed superior oral/penile malignancy knowledge. Medical students were more influenced by parental advice and lectures, while non-medical students decided independently, showed higher vaccination refusal, greater access difficulties, and more likely believed vaccination unnecessary. Barriers were fear of side effects, lack of awareness, and cost concerns. International barriers include psychological factors [1,3-5], cultural attitudes [9,13], limited awareness [2,8,13], lack of recommendations [14=8], and financial barriers [16=10, 14=8, 8=5, 13]. Acceptance rates exceeded 50% among informed participants [8,9,15], with medical students showing greater likelihood and educational interventions increasing acceptance [10]. Future vaccination intentions with 21.86% undecided suggest significant intervention opportunities.

Conclusion and Recommendations. Awareness of HPV vaccination among both Georgian-speaking and international students is below average, which likely contributes to low vaccination rates. It is recommended to enhance awareness among the youth through individual (personal conversations, counseling), group (lectures, seminars, training sessions, discussions), and mass communication channels (TV, radio, social media), supported by appropriate printed educational materials.

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SUMMARY

Background: Human papillomavirus is a major global health concern. Our **Goal** was to evaluate HPV vaccination awareness among students at Tbilisi State Medical University, assess rate of its administration and identify factors influencing vaccination uptake.

Materials and Methods: A cross-sectional analytical study was conducted from January to March 2024, involving 247 students from Tbilisi State Medical University. Data were acquired by an online questionnaire and analysed in Stata 14.0 using descriptive and analytical methods.

Results: Knowledge of HPV transmission was high (97.98%), but significant gender-based knowledge gaps were noticed regarding vaccination age ($p=0.036$), protection scope ($p=0.014$), and side effects ($p<0.001$). Faculty differences were also noted in knowledge of vaccine protection duration ($p=0.014$). Vaccination uptake was low (19.03%), with rates differing by faculty ($p=0.025$). Future intentions also varied, as refusal to vaccinate was significantly higher among female students ($p<0.001$). Decision-making influences differed significantly; medical students relied more on parents ($p=0.001$) and lectures ($p=0.011$), while public health students were influenced more by friends ($p=0.019$) and independent choice ($p=0.001$). Primary barriers included perceived lack of access, reported more by medical students ($p<0.001$), and the belief the vaccine was unnecessary, more common among public health students ($p<0.001$).

Conclusions: While most students are aware that HPV vaccine exists, there is still a disturbing gap between awareness and vaccination practice. Targeted teaching campaigns that address students individual concerns and misconceptions could significantly improve immunization rates.

Keywords: HPV, vaccination, students