

Human Papillomavirus Self-sampling for Primary Cervical Cancer Screening during COVID-19 Pandemic

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Introduction

- Recent Health Behaviour Survey conducted in Hong Kong found that only 46% of women aged 25-64 ever had cervical cancer screening.
- COVID-19 pandemic has resulted in worldwide disruptions of health care in general including cervical cancer screening services.
- Even with the resumption of screening activity after the COVID-19 outbreaks were controlled, many women are reluctant to access the service due to fears of being exposed to SARS-CoV-2 on the way to, or at the healthcare centre.
- Consequently, HPV self-sampling has the advantage that it can be performed at home without attending health care settings.
- This study aimed to assess the effectiveness of HPV self-sampling for cervical cancer screening and the best means of service delivery, with a specific focus on under-screened women (no cervical screening in the past 3 years).

Methods

- Under-screened women aged 30-65 years were recruited from two population groups:
 - General public
 - Specific underserved communities
- Three arms of service delivery were used:
 - Social media
 - School outreach
 - Underserved outreach
- A self-sampled specimens and an optional clinician-sampled cervical specimens were obtained for HPV test.

Results

- The median age of participants was 43 years.
- Of these, 119 (37.7%) women never had cervical cancer screening.
- A total of 521 self-sampling kits were distributed, of which 321 were returned, giving an overall uptake rate of 61.6%.
- Among the 3 arms of service delivery used, the response rate was higher in the face-to-face underserved outreach (65.5%) compared to the social media (22.8%) and school outreach (18.2%).

Table 1: Participation and uptake rate of HPV self-sampling

Group	Method	Number of participants approached	Number of participants registered	Response Rate	Kit sent	Kit returned / Co-test done	Uptake rate
General Public Through Social Media	Facebook Advertisements	Ads showed 16.3K times to 14256 users. It received 1247 clicks (click-through rate: 6.69%). It delivered 98 conversions from 8-14 Sep 2020. 186 registered outside this period.	284	22.8%	167	81	48.5%
School Outreach Programme	E-notice to mothers in the HPV vaccination program	514	94	18.2%	167	80 (2 had co-test only)	47.9%
	E-notice to the whole schools	1190	81	6.8%			
Underserved Outreach through NGOs	Face-to-face	264	173	65.5%	187	162	86.6%
	Online	177	14	7.9%			

- The concordance for HPV detection between self-sampled and clinician-sampled specimens were:
 - 90.2% (95% CI 85.1 - 93.8%)
 - Cohen's kappa 0.59 (95% CI 0.42 - 0.75)
- Overall, 89.2% of women were willing to have self-sampling again.

Table 2: Self-sampling HPV results

Group	N	HPV -ve, n (%)	HPV 16/18 +ve, n (%)	Other hrHPV +ve, n (%)
General Public Through Social Media	80	67 (83.8)	0 (0)	13 (16.3)
School Outreach Programme	77	73 (94.8)	0 (0)	4 (5.2)
Underserved Outreach through NGOs	161	143 (88.8)	4 (2.5)	14 (8.7)
Total	318	283 (89.0)	4 (1.3)	31 (9.7)

Table 3: Co-test results

Cytology	HPV -ve	HPV 16/18 +ve	Other hrHPV +ve
Negative	171	0	14
LSIL	1	0	2
ASCUS	11	1	8
ASC-H	0	0	2
HSIL	0	0	0

Table 4: Acceptability for all women who had self-sampling

Attributes	n (%)	N
Easy or very easy	173 (56.9)	304
Convenient or very convenient	217 (71.1)	305
Not Embarrassed or not embarrassed at all	213 (69.2)	308
Confident or very confident	173 (56.7)	305
No discomfort or no discomfort at all	153 (50.3)	304
Overall good or very good experience	133 (44.2)	301

Table 5: Women's willingness to perform self-sampling again and reasons

Willingness	n	%
Yes	263	89.2
Simple	167	63.5
Comfortable	95	36.1
Quick	92	35.0
Less Embarrassed	85	32.3
Non-painful	74	28.1
Confident	50	19.0
No	32	10.8
Not Confident	16	50.0
Prefer healthcare collected specimen	16	50.0
Hurt	8	25.0
Not Easy	6	18.8
Painful	5	15.6
Not comfortable	4	12.5

Conclusions

- HPV self-sampling is an effective method for cervical cancer screening and can be considered as an option particularly in women who are reluctant or unable to attend regular screening.
- Various service deliveries could be considered to increase participation in cervical cancer screening.

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