

# **Brief Report: Might artworks from online-museum collections contribute to medical education?**

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## **Abstract**

**Background:** Artworks have been used in medical education as they may facilitate a richer understanding of health topics. There is now good access to high quality images of museum-based artworks via the internet, along with written contextual information.

**Methods:** Our sampling frame was the free online “Google Art Project” with 309 art collections from 49 countries, comprising 55,004 artworks by 8645 named artists (in January 2014). Artworks with tobacco use were identified and subjected to thematic analysis to derive a “top ten” selection.

**Results:** Out of these art collections, we identified 356 artworks portraying tobacco smoking. From these it was possible to select 10 works that illustrated a range of important epidemiological, psycho-social and historical aspects of the global tobacco epidemic. Examples included: smoking by disadvantaged groups, smoking by women, smoking by high status people (historically), secondhand smoke, tobacco advertising, ritualistic and social aspects of smoking, smoking and mental health, smoking in cinema, and associations with glamour and sexuality.

**Conclusions:** Online museum-based art collections such as Google Art Project can provide artworks of potential relevance to medical education. At least for the tobacco topic in this study, it was possible to identify artworks that covered important themes.

## **Introduction**

Artworks and art museum tours have been used in medical education as they may facilitate a richer understanding of a health topic e.g., (Gaufberg & Williams 2011). The scope for such approaches is expanding with improvements in access to high quality images of museum-based artworks via the internet.

Tobacco use is such a major global health problem that it is important for medical students to understand its epidemiology, psycho-social and historical dimensions. Such understanding may facilitate the appropriateness of the way that tobacco control interventions are designed and how personalised smoking cessation interventions are delivered by health workers. Previous work on the portrayal of smoking in art has examined Norwegian art (Larsen 1997), Dutch genre art (Harley 1998), Dutch art in the 1600s (Schama 1987), and a study on the decline of smoking in British portraiture (Wilson & Thomson 2004). Along the lines of such previous work we aimed to identify online artworks in museum collections on the topic of tobacco use epidemiology, as a first step to exploring the use of such artworks in medical education.

## Methods

The sampling frame was the content of the Google Cultural Institute's "Art Project" in January 2014 (Google Cultural Institute 2014). At this time it covered 309 art (and archaeological) collections from 49 countries, with a total of 55,004 artworks by 8654 named artists. To identify artworks with tobacco smoking content we visually examined all the artworks. Smoking content was defined as involving a cigarette or pipe in a person's hand or mouth. We supplemented this with key word searches that identified words in the artwork text descriptions (i.e., "smoking", "tobacco", "smoker", "cigarette" and "pipe"). As the size of this Art Project continues to expand (in terms of collections and items in collections), this sampling frame will quickly become outdated.

For those artworks with smoking identified we detailed major themes of particular relevance to illustrating tobacco use epidemiology, psycho-social and historical dimensions. A top ten list of artworks was then collated, with this informed by the authors' past experience in tobacco epidemiology and control.

## Results

A total of 356 artworks with smoking content were identified and these were spread over five centuries: 1600s (5.9%), 1700s (6.7%), 1800s (43.3%), 1900s (37.1%), and 2000s (7.0%). Paintings (at 66.0%), predominated over other forms such as photographs (18.8%) and drawings (10.7%), and only a fifth (19.9%) of works were of named people. Of note was that the collections from which these works were selected were dominated by selected regions of the world e.g., North America: 39.1%, Europe: 27.0%, and East Asia (particularly South Korea): 22.1% and Australasia: 4.2%. Specific details of the 10 selected artworks are detailed in Table 1, along with a summary of the various themes.

The first of the artworks "Beware of Luxury" is typical of Dutch genre painting in the 1600s which tended to portray smoking as part of a range of immoral behaviours. That is, smoking was often combined with portrayals of drunkenness, sexual licentiousness, and general disorder, all of which are implied in this particular artwork. This artwork also reflects the early spread of tobacco via trade to Europe from North America with the Netherlands being a major trading nation in the 1600s.

The second artwork provides an early commentary on the nuisance impacts on others, in this case eye irritation from secondhand smoke. Since this British artwork in the early 1800s, the focus on concern has shifted from the nuisance to the health hazard from secondhand tobacco smoke (particularly since the 1980s). Nevertheless, in the modern era nuisance aspects of secondhand smoke remain as supporting drivers for establishing smokefree areas.

The third artwork shows Australian Aboriginal people smoking, a phenomenon reflecting one of adverse impacts of European colonization. Elsewhere in the collection some Australian rock art shows men on a ship with pipes (<http://www.google.com/culturalinstitute/asset-viewer/early-1900s-ship-with-crew/SgF115Y8qbFs0g?projectId=art-project>). Many indigenous populations currently have relatively high smoking rates and this is a major (and ultimately preventable) driver of health inequalities in various countries (DiGiacomo et al. 2011).

The fourth artwork is a painting by the Impressionist artist Manet (c1877) and shows the earliest portrayal found of cigarette smoking by a woman in the art collections searched. The epidemic of female smoking would not peak in most developed countries until over a century later. It also shows the context of indoor smoking in a café and the association of smoking with alcohol. Such indoor smoking is now illegal in restaurants and bars in France (the setting of this artwork), as it is in many other jurisdictions.

The fifth artwork is a late 19<sup>th</sup> century example of cigarette advertising and one of the earliest such advertisements to advertise to women. The link between smoking and sensuality/sexuality is also a feature of this poster (National Gallery of Australia). Since this time, tobacco marketing has evolved enormously in terms of sophistication and spending power (e.g., Marlboro is now one of the top global brands). But such advertising is now illegal in a growing number of jurisdictions and marketing on tobacco packaging is also being removed e.g., as per standardised tobacco packaging requirements in Australia.

The sixth artwork is of a bus in Sydney, Australia c1943. It shows three men smoking and “blatantly flouting the no smoking sign at the back of the bus” (as per the description of the artwork on the website). Since this time, many countries have successfully made all such public transport smokefree, and some have expanded smokefree areas to include related outdoor settings such as bus stops and train platforms.

The seventh artwork is a portrait of former United States (US) president Gerald Ford holding a pipe (1977, White House collection). It is the last artwork we could identify which shows a US president smoking (i.e., none in the 12 artworks covering five of the six subsequent presidents). This pattern is likely to reflect the denormalisation of smoking amongst politicians and other high status people in recent decades. Yet even this image of a president smoking occurred over a decade after the association between smoking and lung cancer was clearly identified in major UK and US reports.

The eighth artwork is a photograph showing the sharing of a cigarette between a Roma woman and another person in Spain in 1991. Such sharing is one of the rituals that smokers in many cultures participate in and as such it may contribute to the embedded nature of smoking in some cultural settings. In response to such issues, some tobacco control campaigns have specifically used the theme of smoking being alien to the traditional culture (e.g., one for a Māori audience in New Zealand (Grigg et al. 2008)).

The ninth artwork is a self-portrait of the British artist Sarah Lucas smoking while sitting on a toilet. This image is potentially consistent with other themes around blue-collar work by this artist and also possibly a theme around non-conformity and rebelliousness (see the online description by Jessica Lack). For example, another self-portrait by Lucas held by the National Portrait Gallery include smoking a bent cigarette in “Fighting Fire with Fire”. The somewhat dismal image of smoking on the toilet in this artwork also raises the issue of smoking and mental health (e.g., the evidence around depression and poorer quitting success (Hitsman et al. 2013)). Such an association has implications for how to optimally design smoking cessation services.

The final selected artwork is a contemporary painting showing smoking by the former movie star Frances Farmer. This 2011 work appears to be set in the 1930s, the peak of her movie career. Smoking in the movies is likely to be a contributing factor in smoking promotion and acceptability (U.S. Department of Health and Human Services 2012), and so this is a target area for tobacco control activity. But the subject of this artwork also represents associations between smoking and glamour and with sexuality. The link with sexuality has previously been described for smoking portrayals in cinema (in terms of smoking and seduction (McCool et al. 2003), in “smoking culture and lifestyle” websites (Ribisl et al. 2003), and in tobacco industry advertising (Amos & Haglund 2000). Adolescents have also been found to identify sexual content in tobacco advertisements (Sansores et al. 2002). Such links can to some extent be reduced through tobacco marketing controls, though these might be difficult in terms of controls on overt and covert tobacco industry marketing on the internet.

## **Discussion**

This study was able to identify a large selection of museum-based artworks with tobacco content in a single online dataset. From this a more manageable selection of 10 artworks could be derived to illustrate some of the key issues relating to tobacco epidemiology, psycho-social aspects and historical aspects of tobacco use. As such, these artworks could be integrated into classroom teaching in medical education or be used in self-directed learning modules. This type of process could also be used to identify artworks for teaching in other health domains e.g., alcohol use, poverty and health, and conflict and health.

While this study used a large sample frame, it was still dominated by artworks from art collections in particular regions (e.g., North America). The selection presented here could probably be improved upon if a goal was to collate artworks that were specific to one culture or country. Indeed, with the recent growth of online databases

of photographs and artworks (as seen with Google’s “Art Project”), there should ultimately be an even large range of museum-based images from which suitable ones could be selected from.

Table 1: The 10 selected artworks illustrating aspects of the global tobacco epidemic (ordered in historical sequence)

Title and Artist	Setting, year	Smoking-related themes	URL for the artwork and a description of it and the artist
1. “Beware of Luxury” (“In Weelde Siet Toe”) by Jan Steen	Netherlands, 1663	Smoking and morality, child smoking, smoking indoors, associations with alcohol, tobacco and trade	<a href="http://www.google.com/culturalinstitute/asset-viewer/beware-of-luxury-%E2%80%9Cin-weelde-siet-toe%E2%80%9D/iAEDJelKemoXnA?projectId=art-project">http://www.google.com/culturalinstitute/asset-viewer/beware-of-luxury-%E2%80%9Cin-weelde-siet-toe%E2%80%9D/iAEDJelKemoXnA?projectId=art-project</a>
2. “Taunting with Smoke from a Pipe” by Thomas Rowlandson	United Kingdom, 1823	Nuisance impact of secondhand smoke	<a href="http://www.google.com/culturalinstitute/asset-viewer/taunting-with-smoke-from-a-pipe/RgHahzGpPUb7zA?projectId=art-project">http://www.google.com/culturalinstitute/asset-viewer/taunting-with-smoke-from-a-pipe/RgHahzGpPUb7zA?projectId=art-project</a>
3. “A scene in South Australia” by Alexander Schramm	Australia, c1850	Smoking by indigenous people (Aborigines)	<a href="http://www.google.com/culturalinstitute/asset-viewer/a-scene-in-south-australia/yAErhndPBbK8_w?projectId=art-project">http://www.google.com/culturalinstitute/asset-viewer/a-scene-in-south-australia/yAErhndPBbK8_w?projectId=art-project</a>
4. “Plum Brandy” by Edouard Manet	France, c1877	Cigarette smoking by women, associations with alcohol, smoking indoors (hospitality settings)	<a href="http://www.google.com/culturalinstitute/asset-viewer/plum-brandy/RAEnFZY7MHkxdw?projectId=art-project">http://www.google.com/culturalinstitute/asset-viewer/plum-brandy/RAEnFZY7MHkxdw?projectId=art-project</a>
5. “Job” by Alphonse Mucha	France, 1894	Cigarette advertisement (poster), smoking by women, association with sexuality	<a href="http://www.google.com/culturalinstitute/asset-viewer/job/qAGllq_JU7ILQ?projectId=art-project">http://www.google.com/culturalinstitute/asset-viewer/job/qAGllq_JU7ILQ?projectId=art-project</a>
6. “The night bus” by Herbert Badham	Australia, c1943	Secondhand smoke in public transport, “no smoking” signage	<a href="http://www.google.com/culturalinstitute/asset-viewer/the-night-bus/JgEANw5m9cobEw?projectId=art-project">http://www.google.com/culturalinstitute/asset-viewer/the-night-bus/JgEANw5m9cobEw?projectId=art-project</a>
7. “Gerald Rudolph Ford” by Everett Raymond Kinstler	United States, 1977	Smoking by high status people	<a href="http://www.google.com/culturalinstitute/asset-viewer/gerald-rudolph-ford/VAHGVMANbdjSA?projectId=art-project">http://www.google.com/culturalinstitute/asset-viewer/gerald-rudolph-ford/VAHGVMANbdjSA?projectId=art-project</a>
8. “Gitana, Almería, España” by Graciela Iturbide	Spain, 1991	Ritualistic and social aspects of smoking, smoking by ethnic minorities	<a href="http://www.google.com/culturalinstitute/asset-viewer/gitana-almer%C3%ADa-espa%C3%B1a/pwERqaGXEBI-2w?projectId=art-project">http://www.google.com/culturalinstitute/asset-viewer/gitana-almer%C3%ADa-espa%C3%B1a/pwERqaGXEBI-2w?projectId=art-project</a>
9. “Human Toilet Revisited 1998” by Sarah Lucas	United Kingdom, 1999	Smoking and identity (in self-portraits), smoking as a rebellious act, smoking and mental health, smoking indoors	<a href="http://www.google.com/culturalinstitute/asset-viewer/human-toilet-revisited-1998/5wHXey52OyOV9A?projectId=art-project">http://www.google.com/culturalinstitute/asset-viewer/human-toilet-revisited-1998/5wHXey52OyOV9A?projectId=art-project</a>
10. “Portrait - F. Farmer” by Sang Ik Seo	US actor (by South Korean artist), 2011	Smoking by movie stars, smoking associated with glamour and sexuality	<a href="http://www.google.com/culturalinstitute/asset-viewer/portrait-f-farmer/wgHDVzjYRWdFiQ?projectId=art-project">http://www.google.com/culturalinstitute/asset-viewer/portrait-f-farmer/wgHDVzjYRWdFiQ?projectId=art-project</a>

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