INTRODUCTION

Alcohol use disorder is a public health problem, and an important contributor to disability and death. Alcohol is the seventh leading risk factor for both deaths and the disability-adjusted life years; about 5.1% of the global

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burden of disease and injury is attributable to alcohol. Alcohol use causes not only adverse health effects but also the social and economic loss to the individual and society. Alcohol use, especially during adolescence, is linked to many adverse outcomes including road-traffic accidents, neurocognitive impairment, and the chance of developing dependence.

Alcohol initiation is associated with various individual and environmental factors. Studies have also assessed the role of media, especially movies, in influencing an individual’s choice to consume alcohol, especially during adolescence. Exposure to alcohol in popular movies during adolescence is associated with higher rates of alcohol use. It is postulated that movie characters through their high visibility and larger-than-life status act as “super peers” for the adolescent to copy. Many studies have assessed the extent and pattern of the depiction of alcohol in Hollywood movies. Often, alcohol use is portrayed in a positive light without any negative outcomes of alcohol use. Most of these studies have systematically chosen top-grossing movies and assessed the proportion of movies and time, in which tobacco, alcohol, and illicit substances have been portrayed.

This is not the case with Indian movies. The Hindi film industry, also called Bollywood, dominates the Indian film industry, and contributes to about 43% of the revenue made from the Indian media and entertainment industry. Individuals across socioeconomic and geographic boundaries watch Bollywood movies. It has the highest number of tickets sold compared with other movie industries. The number of tickets sold in Bollywood yearly is much higher compared with Hollywood. Some documents, including some studies and articles in lay media, have described alcohol depiction in Bollywood movies. However, these studies have chosen Bollywood movies for review purposively, rather than systematically. To the best of our knowledge, there are no studies that have systematically assessed the extent of the depiction of alcohol in Bollywood movies and have assessed trends in the depiction of alcohol over several decades. The present study was planned keeping this background in mind. The specific objectives of the study were as follows: A) to quantify (by number and duration) the scenes, in which alcohol is depicted in Bollywood movies; b) to conduct content analysis of the scenes, in which alcohol is depicted in Bollywood movies, and c) to analyze the trends over three decades in portrayal of alcohol in Bollywood movies.

**MATERIALS AND METHODS**

We chose movies from three decades for the study: 1961–1970, 1981–1990, and 2001–2010. India liberalized its economy in 1991, and since then, there has been a change in the social milieu in the country. There has been a rise in the disposal income and access to entertainment such as the number of television sets sold, reach of the Internet, etc. Hence, we selected the decade just before the economic liberalization (1981–1990) and the decade just after the economic liberalization decade (2001–2010). The year 1961–1970 was included to assess the long-term trend in the portrayal of alcohol in Bollywood cinema.

We selected the top five grossing (box office collections) movies for each year of the decade selected. Information on the top five grossing movie of a particular year was obtained from Wikipedia and from the website http://muvyz.com/boxoffice. We included only full-length feature films in the Hindi language in the study. Box office earnings are an indirect sign of the viewership of the movie by its audience. We selected 150 movies (50 movies per selected decade) in this manner and bought their hard copies or their online version, whichever was available easily.

Each movie was screened twice. First, seven raters identified all scenes containing alcohol and entered the starting and ending time of each of these scenes. The lead author at first trained the raters by showing scenes using 10–15 alcohol-related scenes from different movies. The 150 movies were divided among these 7 raters through stratified random sampling, stratified by the three selected decades. Next, a team of four second-level raters, identified among the authors listed, viewed each movie again and identified scenes depicting alcohol. These second-level raters conducted the content analysis for each scene depicting alcohol in the movie. At the end of each movie, the second-level raters went through the list of the scenes prepared by the first-level raters to ensure that they did not miss any scene depicting alcohol. Before the analysis, the second-level raters analyzed 10–15 different scenes together to arrive at a consensus on conducting content analysis of scenes. The second-level raters consulted the lead author in case of any difficulty in interpreting a particular scene. The 150 movies were also divided among the second-level raters through stratified random sampling, stratified by the three selected decades.

**Content analysis of the scene**

A scene was defined as “series or sequence of dialogue and action at a single location or single point in time.” We considered visual, audio as well as the combined audio-visual depiction of alcohol for inclusion in the study. Visual depiction of alcohol meant visual scenes of either alcohol itself, alcohol-related paraphernalia (such as bottles of alcohol) or of the person appearing intoxicated or in withdrawal state. Audio depiction of alcohol meant alcohol mentioned in narration or in song lyrics.

The second-level raters made a note of the following aspects of alcohol depiction in each scene: (1) time duration of alcohol depiction in the scene, (2) whether audio, visual or
audio-visual depiction, (3) whether depiction in narration or in song, (4) type of depiction—whether substance itself, paraphernalia, intoxicated character without depiction of substance, showing brand in background, showing alcohol shop in background, (5) type of alcohol (spirits, local liquor, beer, wine, combination of any of these), (6) setting of depiction (home, restaurant or bar, workplace, party/club or casino, etc.) (7) locale of depiction (whether in India or outside India, and whether urban or rural), (8) type of message (pro-use, anti-use, mixed or no message), and (9) whether characters shown to consume alcohol. The second-level raters also collected the following information about each character shown using alcohol: Type of character shown using alcohol (hero, heroine, villain, vamp, parent of any primary character, etc.), whether character shown drunk, context of alcohol use (enjoyment or partying, romance, forgetting loved one, warding off negative emotions, alcohol taken as challenge, evoke laughter, etc.), associated emotions while consuming alcohol (happy, sad, irritable, anxious, etc.), whether they indulged in high-risk behavior while consuming alcohol and type of high-risk behavior (driving under influence, force into sex, sexual assault or rape, indulging in crime, etc.).

Analysis of the entire movie

The second-level rater also recorded some information for the entire movie after the analysis of all the scenes in the movie. The information included: total duration of the movie; genre; names of the hero, heroine, villain, director, producer; and the total number of scenes in which alcohol was depicted. Further, the second-level rater also noted whether long-term effect of alcohol use depicted and if yes, the nature of effect; and whether treatment for alcohol depicted and nature of treatment depicted. Finally, they described the overall context, in which alcohol was depicted in the movie in her/his own words.

We began the study after getting permission from the institute ethics committee of our institute.

Data compilation and analysis

The second-level raters entered the data in Google Docs, with each scene considered as one data point, and analyzed the data using the Microsoft Excel program. We first conducted the descriptive analysis for the quantitative variables and then compared the variables across the three decades to assess for any changes in the portrayal of alcohol. The difference between variables across the three decades was tested using the Chi-square test. A value of $P < 0.05$ was considered statistically significant.

We also performed qualitative content analysis for the text description of the content, in which alcohol was depicted in every movie. The analysis was performed for each decade separately. First, keywords were coded for each description separately and then grouped to create themes for the decade to which the movie belonged. Data from the quantitative and qualitative analyses were used to detect the trends across the three decades.

RESULTS

Of the total 150 movies analyzed across the three decades, 135 (90%) movies contained one or more scenes depicting alcohol. About 56.3% ($n = 1058$ of the total 1877 scenes depicting any psychoactive substance use (including tobacco, alcohol, cannabis, or other drugs) were those depicting alcohol. The combined duration of scenes that depicted alcohol was about 27 h and 30 min, which was 7% of the combined duration of all movies. Three movies (Devdas-2002, Mashaal-1984, and Sharaabi-1984) had alcohol as the central themes. The genre of most movies with alcohol depiction was drama ($n = 51$, 37.8%) or comedy ($n = 12$, 8.9%).

Content analysis of scenes

The most common medium of alcohol depiction was visual alone ($n = 658$, 62.2%) or visual combined with audio (26.1% [$n = 276$]). About 14.6% ($n = 154$) alcohol scenes were depicted through songs (either visual or through song lyrics). Majority of the scenes (92.2%, $n = 976$) depicted the substance, which is alcohol itself. About 3.3% ($n = 35$) and 2.6% ($n = 28$) scenes did not show alcohol directly; rather, they depicted intoxicated characters and paraphernalia, respectively. The most common alcohol depicted was spirits alone such as whiskey or vodka (75.1%, $n = 733$). This was followed by wine alone (6.5%, $n = 64$), country liquor alone (5.3%, $n = 52$), and beer alone (4.6%, $n = 45$). Rest of the alcohol depicting scenes had a combination of different alcoholic drinks. Only 7.9% of scenes ($n = 84$) showed alcohol brands, among which Johnnie Walker (28.6%, $n = 24$) and VAT-69 (25%, $n = 21$) were the most commonly shown [Table 1].

Most alcohol depicting scenes were located in India (83.8%, $n = 887$), in urban cities or towns (82.4%, $n = 872$). About 16.2% ($n = 171$) alcohol scenes were in a foreign country. The most common setting of alcohol depiction was at home (35.3%, $n = 374$), followed by in open or public spaces (18.9%, $n = 201$), and in clubs or discotheques (18.5%, $n = 196$) [Table 1].

Characters with alcohol use

Of the 1058 alcohol scenes, 67% ($n = 709$) scenes had one or more characters shown consuming any alcoholic drink or shown intoxicated with alcohol. Of these 709 alcohol scenes, most scenes portrayed hero ($n = 253$, 35.7%), followed by villain ($n = 211$, 29.8%). Female characters were associated with alcohol in 7.5% ($n = 53$) of the alcohol scenes, of which the lead female character (heroine) was shown using alcohol in 43 scenes and negative female
character (vamp) in 10 scenes. Most characters with alcohol use portrayed an adult character (108%, n = 770). Most commonly, characters consumed alcohol with associates or friends (40.2%, n = 285), whereas 29.2% of scenes (n = 207) showed the characters using alcohol in the presence of others but used it alone. More than half of the characters (53%, n = 376) who used alcohol belonged to the upper socio-economic class. About 29.2% (n = 207) of the alcohol scenes showed characters intoxicated or under the influence of alcohol [Table 2].

Context of alcohol use
In 38% (n = 271) scenes, the characters used alcohol under no particular context. The two most common context associated with alcohol use was to enjoy, party or to celebrate (33.1%, n = 235), followed by use to suppress negative emotions (10.3%, n = 73). In 10.1% (n = 72) scenes that showed characters using alcohol, the characters engaged in behaviors that could be termed as “high-risk” behavior. The most common high-risk behavior shown was planning or committing a crime under influence (37.5% n = 27). Driving under the influence of alcohol or being in a vehicle driven by intoxicated character (19.4%, n = 14) was the next common high-risk behavior shown. The overall message suggested was pro-use in 19.7% (n = 209) scenes, whereas 17.8% (n = 189) scenes could be termed “anti-use” [Table 3].

Eight percent of movies (n = 12) showed negative outcomes of long-term alcohol use. Five movies each showed health-related and social or legal outcomes, while two movies showed negative financial outcomes of long-term alcohol use. Four movies showed the character receiving some form of help for his problem of alcohol use. One movie (Prince) depicted the hero leaving all material comfort, including alcohol, on the advice of a spiritual “guru.” In another movie, a lead character pledged stopping his alcohol, if his mother gets well (movie: Coolie). Two movies show some consultation with a medical doctor.

Trends in alcohol depiction across the three decades
We compared alcohol depiction in the chosen movies from three decades: decade one – 1961–1970, decade two – 1981–1990, and decade three – 2001–2010. There was a significant difference in the proportion of movies that depicted alcohol across the three decades. Decade one had the least proportion of movies with alcohol use; however, there was no difference in the proportion of time for which alcohol scenes were depicted in the three decades. The alcohol drinks depicted differed significantly across the three decades. Compared with the first decade, the third decade had the least proportion of Spirits and the highest proportion of liquor containing a lesser concentration of alcohol such as beer and wine. Similarly, decade three had the least proportion of scenes set in the home and the most proportion
of scenes set in clubs, bars, discotheques, or restaurants. This difference was significant across the three decades. There was also a significant difference in the message portrayed – decade three had the least proportion of scenes that had a message which could be termed as “anti-use.”

There was also a significant difference in the character portraying alcohol use across the three decades. Decade three had the least proportion of scenes in which characters with “negative” shade portrayed alcohol use and the highest proportion of scenes with characters with “positive” shade portraying alcohol use. The opposite was true for decade one. Similarly, decade three had the highest proportion of scenes portraying heroine with alcohol use.

Table 4 shows the results of the trend analysis.

**Qualitative content analysis**

The description provided by the second-level rates for each movie was analyzed to assess the common trends in the manner of alcohol depiction in each decade.

**Decade one: 1961–1970**

In this decade, alcohol was portrayed in two distinct ways. The first depiction is the use of alcohol to celebrate or party, mainly in homes and to portray the urban lifestyle of the hero, heroine or their families. The other depiction is of the character with negative shade (villain or his associates) consuming alcohol. Alcohol is used to depict his evil nature. Heroines drinking alcohol was not only discouraged but also looked down upon. Alcohol use by female leads was considered to be against Indian culture and values. For example, in the movie “Purab Aur Paschim,” the heroine is shown to consume alcohol because of her upbringing in a Western country following Western values. She stops drinking and smoking after she embraces Indian culture and Indian values. In some scenes, heroine is shown drinking to deal with cold weather.

**Decade two: 1981–1990**

Here too, most of the movies followed the same trend as decade one. Seven movies had characters shown to be addicted to alcohol. Gambling and violent acts including sexual molestation were associated with alcohol use. The portrayal of alcohol use by the female leads also did not change significantly in this decade. Movies like “Tezab” and “Dil” portrayed young, college-going students drinking beer on occasion of birthday or to celebrate some occasions.

This decade also had two movies, in which one of the central themes was alcohol. The name of the first movie “Sharabi” itself means “alcoholic” which had the male lead starting alcohol in childhood itself and becoming an alcoholic because of deprivation of parental love and attention. However, the alcoholic protagonist is also shown to be generous and much loved by his employees and friends. Similarly, the second movie “Mashaal” has illicit production of alcohol as one of the important features. In the beginning, the movie shows the male lead, Dilip Kumar, to be a good person and disliking alcohol use, and Anil Kapoor as a local thug and using alcohol. In the later part of the movie, Anil Kapoor turns a new leaf and stops using alcohol, while Dilip Kumar turns into a villain, starts using alcohol and produces illicit alcohol.

**Decade three: 2001–2010**

Alcohol was shown to be consumed in clubs, discos, bars, etc., by protagonists who were young college students or working men. Heroines were also shown to be drinking to socialize and have fun similar to the male protagonist. The negative portrayal of alcohol by villains was less in this decade.

This decade had one movie, in which alcohol was the central theme – “Devdas.” The period of the movie, however, was the early 20th century. This movie, which is an adaptation of a novel by the same name depicts the lead male character turning to alcohol in response to his girlfriend married off elsewhere. The movie shows the character becomes an “alcoholic” and finally succumb to alcohol.

**Table 3: Context of alcohol use in Bollywood movies**

| Variables                              | Frequency (%) |
|----------------------------------------|---------------|
| Specific context of alcohol use (n=709) |               |
| No particular context                  | 271 (38.2)    |
| Enjoyment/celebration/party            | 235 (33.1)    |
| Warding off negative emotions          | 73 (10.3)     |
| Intoxication shown to invoke laughter  | 20 (2.8)      |
| Risky behavior/illegal activities      | 19 (2.7)      |
| Forgetting a loved one                 | 11 (1.6)      |
| To humiditate others                   | 14 (2.0)      |
| Enjoying intimate moments with opposite gender | 13 (1.8) |
| Enjoying moments of solitude           | 7 (1.0)       |
| Gambling/playing snooker               | 5 (0.7)       |
| Coercing nonwilling person to have sex | 8 (1.1)       |
| Fights/assaults                        | 4 (0.6)       |
| Substance taken as dare/challenge      | 4 (0.6)       |
| Improve self confidence                | 8 (1.1)       |
| Alcohol given forcible/surreptitiously | 7 (1.0)       |
| Unable to infer context                | 10 (1.4)      |
| Emotion associated with alcohol use (n=709) |           |
| No particular emotion                  | 329 (46.4)    |
| Happy                                  | 180 (25.4)    |
| Dysphoric                              | 57 (8.0)      |
| Irritable                              | 23 (3.2)      |
| Cannot be gauged                       | 21 (2.9)      |
| Overconfident                          | 15 (2.1)      |
| Angry                                  | 16 (2.3)      |
| Multiple emotions shown                | 68 (9.6)      |
| Type of high-risk behavior depicted (n=709) |         |
| Planning or committing a crime under influence | 27 (3.8) |
| Driving under influence/driving with intoxicated person | 14 (2.0) |
| Rape/sexual assault under influence    | 12 (1.7)      |
| Unsafe consensual sexual intercourse   | 6 (0.8)       |
| Others (includes destructive/self-harm behavior) | 13 (1.8) |
| Type of message conveyed in the scenes (n=1058) |         |
| No particular message                  | 605 (57.2)    |
| Pro-use message                        | 209 (19.7)    |
| Anti-use message                       | 189 (17.8)    |
| Mixed message                          | 55 (5.1)      |
DISCUSSION

The present study was conducted to quantify the depiction of alcohol in top-grossing Bollywood movies across three decades and to assess how alcohol is depicted in these movies. Furthermore, the study sought to assess the trends in the depiction of alcohol over the last five decades. Few studies have analyzed how psychoactive substances are depicted in Bollywood movies, mainly using qualitative methods.\[^{20,22}\] However, to the best of our knowledge, there are no studies that have quantified to what extent alcohol use is portrayed in Bollywood movies.

“Cultivation theory” suggests that media provides a consistent worldview that may vary from reality on many dimensions. The more the viewer is exposed to the media, the more individuals are likely to accept the media’s world view as an accurate depiction.\[^{22}\] Thus, it is important to study the extent of alcohol depiction in movies. “Observational learning theory” focuses more on the context likely to facilitate or inhibit learning a particular behavior. Thus, observational learning studies concern with how other characteristics of a portrayal influence audience responses. For example, characteristics such as the nature of the character, the outcomes associated with the behavior, the motivation underlying the behavior, and several other attributes that may make a depiction seem more or less positive or useful.\[^{24,25}\] Hence, we sought to assess on the rates as well as the manner of alcohol depiction in Bollywood movies.

Our study showed that the majority (90%) of the movies had one or more depiction of alcohol. This is in tune with rates of alcohol depiction in Hollywood movies, where studies have reported similar rates as our study.\[^{13,14}\] However, compared with American movies, few scenes in Bollywood movies had depiction of alcohol brands.\[^{20}\] The most common portrayal of alcohol in Bollywood is the hero consuming alcohol for fun with associates or friends. This depiction has the risk of young audiences viewing these characters as ‘super-peers’ and copy the behavior of these characters. Trend analysis also points to the increasing portrayal of this pattern of alcohol use lately. The movies of the last decade increasingly showed alcohol used during casual meeting between two characters or even between families. Most movies of the last decade did not have
villains, as seen in the earlier decades. Heroes themselves were shown to be “normal” people with shades of gray. The choice of alcohol also included beer now, rather than Spirits in the earlier decades. Cape terms this as “routinized background” stereotype in movies, where nonproblematic use of drugs is shown to have positive social connotations, with the character in consonant with the society.\textsuperscript{[27]}

The earlier decades had a clear distinction between hero and villain. The hero was “perfect” in all ways, consuming alcohol to down his sorrows or to overcome negative emotions rather than to have fun. This is consistent with Cape’s classification of stereotyping characters as “tragic heroes” in movies.\textsuperscript{[27]} Alcohol use in the earlier decades was shown to highlight “badness” in the villain. The movie “Mashaal,” best highlighted the depiction that alcohol use is associated with bad people. In this movie, a teetotaller character begins using alcohol when he changes from being a hero to an anti-hero/villain. However, the portrayal shifted in the late 80s, where alcohol use was associated with heroes who drank to have fun and celebrate birthdays with their friends. The quantitative results also reflect this changing trend. Alcohol now was shown in bars, clubs, discotheques, or restaurants in the last decade. Similarly, there was a significant increase in the characters with positive shade portraying alcohol use. This decade also had more depiction of beer or wine, replacing Spirits.

Alcohol use depiction by female characters has also undergone change over the years. There were more scenes portraying female characters consuming alcohol in the last decade compared with earlier decades. Studies also point toward increasing trend of women using alcohol, especially in the last decade.\textsuperscript{[29]} There is also qualitative difference in the portrayal of alcohol use by female characters through the decades. The 60s did not view alcohol use by female characters favorably. The movie “Purab Aur Paschim” best depicts this view, where alcohol use was shown to be “Un-Indian” like and consumed under the influence of western culture and upbringing. Another example is the film “Intequam” where the heroine consumes alcohol to bring disrepute to her prospective father-in-law who had committed injustice to her in the past. The later part of the movie reveals the heroine had only “acted drunk” without consuming alcohol, implying that good girls do not consume alcohol for any reason. In the movie “Sangam,” the female lead drinks alcohol to tide over the cold weather whereas the male lead is shown to happily consume alcohol for fun. This changed substantially in the third decade, where the heroine was shown to be an independent person and drinking alcohol along with her male counterpart to have fun and enjoy. Movies such as “Love Aaj Kal,” “Race,” and “Bunty Aur Babli” are good examples of this changing trend. Bhattacharya also has a similar observation. He mentions, “Never before were women from middle-class backgrounds shown drinking and that too so informally, with no moral baggage associated with it.”\textsuperscript{[29]}

Limitations

Certain limitations must be kept in mind during the interpretation of the results. We did not conduct any formal analysis to assess inter-rater reliability. Hence, there may be a difference in interpretation between the second-level raters. However, we tried to overcome this limitation by ensuring the second-level raters screen 10–15 scenes together to develop a common understanding in the interpretation of scenes. Furthermore, the raters consulted the lead author in case of any difficulty in the interpretation of a particular scene. As there are no official sites of Bollywood movies, we collect information from other sites that provided information, especially for the 60s and 80s decades. While we could cross-verify the information collected for the last decade with other websites, this was not possible for the first two selected decades.

CONCLUSION

Sizeable proportion of movie time is dedicated to the depiction of alcohol. There is an increasing trend toward portrayal of alcohol by positive characters for fun and relaxation in recent decades. Although Spirits is most commonly depicted, there is an increasing trend toward depiction of low-concentration alcohol such as beer. The proportion of females using alcohol has also increased in recent decades. The impact of the changing trend of depiction of alcohol on the Indian viewers, especially young audiences, needs further study.

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Conflicts of interest

There are no conflicts of interest.

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