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Media coverage and framing of road traffic safety in India

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ABSTRACT

Background Media coverage of road traffic collisions (RTCs) may influence preventative action. India experiences some of the highest RTC mortality and morbidity rates globally, but advocacy and effective action to mitigate this has been limited. We conducted an analysis of Indian media in English to assess whether coverage met the WHO's *Reporting on Road Safety* guidelines for evidence-based reporting of RTCs.

Methods English-language articles published online between March 2018 and February 2019 were assessed against the seven recommended story angles and seven recommended key elements in the WHO guidelines.

Results 458 articles were included in the analysis. The most common story angle was descriptions of single collisions, which was not a WHO-recommended story angle. These included limited key elements such as use of human story or linking to road safety risks or evidence-based solutions. However, some articles did follow the WHO-recommended story angles, with 22.1% discussing specific road safety solutions and a further 6.3% discussing vulnerable groups. Almost all articles avoided the use of technical language, but only 2.0% explicitly stated that RTCs were preventable. More than half identified at least one evidence-based solution. Very few articles discussed economic or health impacts of RTCs, including the burden they present to the public health system.

Conclusion Indian media in English can improve reporting by focusing on human stories and documenting experiences of those injured in RTCs. Coverage should also focus more on evidence-based solutions, emphasising the systems approach which encourages government action rather than changes to individual behaviour.

Key questions

What is already known?

- Road traffic collisions (RTCs) are a major contributor to injury-related death and injury in India.
- The reporting of RTCs in the media may influence the understanding, prioritisations and actions taken by both individuals and decision makers towards improving safety.
- The WHO released the Organization's *Reporting on Road Safety* guidelines to provide journalists direction on covering RTCs to influence evidence-based action.

What are the new findings?

- We present the first analysis of how Indian media in English covers RTCs.
- We found that journalists were not incorporating important elements in their articles, such as human stories and discussion of broader economic and health impacts, and were not incorporating a range of stakeholder voices.
- Targeted media coverage of system-level evidence-based solutions to RTCs was also lacking.

What do the new findings imply?

- We recommend that media coverage of RTCs in India and other contexts can be improved by putting greater focus on system-level evidence-based solutions and discussing injuries in addition to deaths.
- Journalists require additional training and guidance in the use of understandable statistics and human stories to move decision-maker audiences to action.

BACKGROUND

The mass media has enormous potential to influence health-related behaviours, perceptions and responses of both individuals using the road and decision-makers who design road safety infrastructure and influence road safety policymaking. Road traffic collisions (RTCs) are a major cause of mortality and morbidity in India, accounting for 2.2% of all deaths and 10.2% of deaths by injury.[1]

Media presentation of health issues shape both individual behaviours towards and decision-maker attention to different solutions.[2] Framing—intended as context, theme or even news angle—is of importance, particularly when studying the possible effects of news.[3] Framing involves the selection and salience of news, choices that are made by the journalists and that define problems, diagnose causes, make moral judgements and suggest remedies.[4] For example, during the COVID-19 pandemic, media is playing a pivotal role in influencing individual perceptions and anxieties related to the pandemic and affected health-protective behaviours.[5] Extensive coverage may have also led to a

perception of heightened risk among decision-makers, leading to fast and drastic policy responses in many countries even where not appropriate.[6] The media can also influence responses and policy, such as around tobacco use—both for better and worse—depending on whether tobacco has been framed as socially acceptable or as a health hazard.[7] In the context of RTCs, framing it as human error may provide a simplistic explanation for a complex phenomenon and absolve the government from acting.[8–10]

In an attempt to increase awareness and trigger action for road safety through evidence-driven media, the WHO released a guide in 2015 to provide journalists with reporting direction.[11] The guide aimed to assist journalists in reframing road crash stories into road safety stories increasing focus on prevention and the larger social and economic costs of RTCs. Such framing would, in turn, influence policymakers to act towards developing systems-based approaches to prevention.

To combat the rising burden of RTC-associated injuries and fatalities in India, there is a need for implementation of an evidence-based safe systems approach to road safety.[12 13] Roads are shared with a range of vehicles from two-wheelers, cars, trucks to animal-drawn carts (many of which are unsafe), and current infrastructure is not appropriate to ensure safety for all users. Poor law enforcement of drink–driving, wearing of seat belts and helmets, and speed limits on highways exacerbate the issue. Post-collision response and care is lacking.[14 15]

The media helps build the narrative for the implementation of evidence-based solutions including the setting and enforcing speed and alcohol limits, improving road design and maintenance, setting minimum safety requirements for vehicles, improved lighting and enforcing the use of seat belts and helmets.[16] India passed The Motor Vehicles (Amendment) Act in 2019 to address some of these issues, such as increasing fines for risky driving and holding builders accountable for poor quality infrastructure. However, the Act still lacks in some regard such as providing for road design catering to India's mixed-vehicle traffic and inclusion of minimum vehicle safety standards.[17]

Although Indian media in English has a role in addressing RTCs by influencing action and challenging harmful attitudes and misconceptions,[8] it is currently unclear how well it follows best practice as guided by WHO's *Reporting on Road Safety* recommendations.[11] We seek to identify how well key principles in RTC reporting have been taken up by Indian journalists in English-language online articles. The analysis will be fed back to the journalist community in order to make recommendations for further improvements.

METHODS

We systematically analysed Indian English-language media reports on RTCs to assess whether media reporting follows best practices, as guided by WHO's *Reporting on Road Safety* guide.

Search strategy

A search for media articles was conducted on news.google.com. The search terms used were '*India and (road or traffic) and (crash or collision or safety or injury or death or accident or incident or mishap)*'. The search was restricted to 12 months immediately preceding the start of searches (from March 2018 to February 2019) and ensured a full year was covered in case media reporting on RTCs was seasonal.

Articles found in the search were screened by title. Full texts of those that met the inclusion criteria based on title, language and publication/newspaper location were downloaded for analysis. Articles could be reports, blogs or editorials produced by Indian news corporations in the English language.

Framework

The WHO *Reporting on Road Safety* guide aimed to provide journalists with direction on how to report on RTCs factually, while inspiring action.[11] The guide included two main frameworks. First, it identified seven story angles around which journalists could frame their reporting. Second, it identified seven key elements that should be included in these articles. These are summarised in table 1. The guide was translated into multiple languages including the Indian languages of Hindi, Punjabi and Telegu.

Analysis

All articles downloaded were analysed with NVivo V.12 software.[18] MG and ISK analysed articles for content and coded against both the type of story angle and the key elements as per the WHO guideline. Each article was coded for the one primary story angle it followed, while the use of all key characteristics in each article was identified. Story angles that did not meet WHO guidelines recommendations but still reported on RTCs were also coded and grouped.

The two coders compared findings midway and at the end of the analysis to enable concurrence in interpretation of the framework. Findings were agreed on after all articles were coded and discrepancies discussed. Pearson's χ^2 tests were used to assess differences between proportions where applicable.

RESULTS

The online search yielded 458 articles that met the criteria and were included in the analysis. Ten duplicates were excluded and further seven articles were excluded because they covered other countries.

Article characteristics

Over half of the articles discussed RTCs in a regional state of India (54.6%, n=250). Of these, more articles focused on Maharashtra than any other state (25.2%, n=63, p<0.001). Other commonly covered states included

Table 1 WHO-recommended story angles and key elements

	Story angles	Key elements
1	The overall deadliness of road traffic collisions	Linking road traffic collision data to the wider context, such as to global development goals, comparisons to other epidemics or changes in policy
2	The strain RTCs place on public health systems	Asking about or explaining the reasons behind RTC statistics
3	The effect of RTCs on survivors' and families' quality of life	Avoiding technical language
4	The vulnerability of certain groups to RTCs	Emphasising the need for governments to make road safety a priority
5	The perspectives of stakeholder groups such as advocates and survivors	Finding the human story
6	The passing or amendments to RTC laws	Acknowledging that road traffic collisions are not accidents
7	The promotion of evidence-based solutions	Presenting evidence-based solutions to reducing the risk of RTCs

RTC, road traffic collision.

Karnataka (11.6%, n=29), Uttar Pradesh (10.0%, n=25) and Tamil Nadu (9.6%, n=24).

A total of 81 Indian publications/newspapers reported on RTCs. The highest number of articles came from *The Times of India* (38.4%, n=176). This was significantly greater than the next-highest publication/newspaper represented, *Daily News & Analysis* (6.3%, n=29, p<0.001). Other common papers included *The New Indian Express* (4.1%, n=19), *The Indian Express* (2.6%, n=12) and *The Hindustan Times* (2.4%, n=11).

Almost half of the articles (45.9%, n=210) did not have a journalist identified on the byline. The remainder (50.7%, n=232) were written by 183 individual journalists.

Use of recommended story angles

The number of articles by story angle was not equally represented (p<0.001). Some of the WHO-recommended story angles were used more commonly than others. In addition, almost half of the articles (43.3%, n=198) followed story angles that were not recommended. Table 2 depicts the frequency of story angles used.

The most common story angle was providing a description of a single collision (SA-8) (see table 1 for story angle coding), which *was not* recommended in the WHO guidelines as it tended to detail a single RTC and sensationalise the event. Of SA-8 articles, 52.2% (n=93) did not include any of the recommended key elements, but 22.4% (n=40) did include some element of human story, most often discussing a deceased person's life. A few SA-8 articles (15.2%, n=27) presented general RTC statistics, and 12.4% (n=22) included discussion of solutions to RTCs.

The most common story angle used which was recommended by WHO was *Analysis of solutions to RTCs* (WHO-SA-7). The most commonly discussed solutions were building awareness of RTCs (60.4%, n=61) and urging individuals to follow rules (26.7%, n=27).

The next most common story angle was covering the deadliness of RTCs (WHO-SA-1). This identified system-level causes of RTCs such as poor road design or lack of enforcement (49.5%, n=45) significantly more than individual causes such as unsafe driving (16.5%, n=15, p<0.001). Many WHO-SA-1 articles provided statistics on probable causes behind RTCs (78.0%, n=71), but most

Table 2 Use of story angles

Identification code	Story angle	Percentage of articles (N=458)
	WHO-recommended story angle	
WHO-SA-1	Deadliness of RTCs	19.9% (n=91)
WHO-SA-2	Strain on the public health system	<1% (n=1)
WHO-SA-3	Effect of RTCs on quality of life	<1% (n=4)
WHO-SA-4	Vulnerability of certain groups	6.3% (n=29)
WHO-SA-5	Perspectives from related stakeholder	2.4% (n=11)
WHO-SA-6	Coverage of new proposals or laws	5.0% (n=23)
WHO-SA-7	Analysis of solutions to RTCs	22.1% (n=101)
	Other story angle	
SA-8	Description of collision	38.9% (n=178)
SA-9	Specific causes behind RTCs	4.4% (n=20)

RTCs, road traffic collisions.

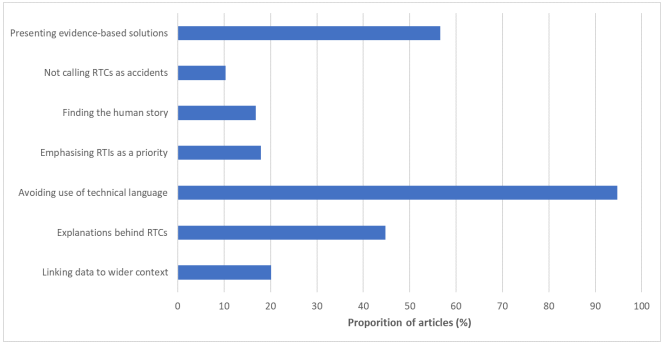

Figure 1 Inclusion of key elements across articles. RTCs, road traffic collisions; RTIs, road traffic injuries.

did not provide meaning or explanations behind these (49.5%, n=45).

Articles discussing the vulnerability of certain groups (WHO-SA-4) most commonly discussed pedestrians (31.0%, n=9) and also covered two-wheeler riders and working-aged adults in equal numbers (20.7%, n=6). Some WHO-SA-4 articles included meaningful statistics on why certain groups were more vulnerable (31.0%, n=27), while the remainder of articles did not provide an explanation on why these groups were more vulnerable (69.0%, n=60).

The other WHO-recommended story angles were used in a very limited number of articles. A few articles discussed specific causes of RTCs (SA-2), which was not a WHO-recommended story angle. Common causes covered in these articles included poor road maintenance and presence of potholes (30.0%, n=6) and lack of enforcement (20.0%, n=4).

Inclusion of key elements

The inclusion of the recommended key elements varied, as depicted in figure 1. The details of how each key element was used are discussed in figure 1.

Illustrative quotations for the below findings from media articles are presented in table 3.

Linking to the wider context

Only 92 articles linked RTCs to the wider context, with 58.7% (n=54) of these linking to current policy or legislation, 21.7% (n=20) discussing the impact of RTCs on gross domestic product (GDP) or economic productivity, 18.5% (n=17) linking RTCs to international obligations and development goals, and 17.4% (n=16) stating that RTCs were a leading cause of death or disability (table 3, Refs 1 and 2).

Less than 5% mentioned the strain on the public health system (n=3) or the disproportionate challenge RTCs presented to low-middle-income countries(LMICs) (n=2) (table 3, Ref 3).

Explanations behind RTCs

Similar proportions of articles identified human behaviour-related causes of RTCs (71.7%, n=147) and system-level causes of RTCs (65.9%, n=135, p>0.05). Some articles discussed both system-level and human behaviour factors in the same story (37.6%, n=77) (table 3, Ref 4). Table 4 lists causes identified in articles.

Some articles (34.7%, n=159) presented statistics on the general burden of RTCs. However, most of these articles (66.0%, n=105) provided no explanation as to the causes that led to these statistics. Some of these articles (31.7%, n=65) included both explained and unexplained statistics (table 3, Ref 5).

Avoiding the use of technical language

Articles that used technical language (5.2%, n=24) most commonly used unexplained terms for solutions to RTCs. Legal terms were also used without explanation such as 'prima facie' and abbreviations such as 'RTO' and 'DGP' (table 3, Ref 6).

Emphasising RTCs as a priority

While some articles implied that RTCs should be prioritised by individuals and/or government, only 29.3% (n=23) explicitly stated that RTCs should be a priority. Only 2.8% of total articles (n=13) explicitly stated that the lack of prioritisation of RTCs by the government was a problem (table 3, Refs 7 and 8).

Finding the human story

Of articles including a human story, 35.1% (n=27) discussed the life of the deceased person, 22.1% (n=17) reported on disability and trauma experienced by the victim, 20.8% (n=16) discussed impact on the victim's family, 15.6% (n=12) described compensation given to the victim or family and only 6.5% (n=5) discussed the economic costs to the families. Impacts on quality of life after an RTC were discussed in 22.1% of these articles (n=17) (table 3, Refs 9 and 10).

More broadly, while 46.7% (n=214) articles mentioned deaths or injury as a result of RTCs (with or without a human story), significantly fewer (0.4%, n=2, p<0.001) focused on resultant disabilities (table 3, Ref 11).

Not terming RTCs as accidents

Most articles labelled traffic collisions as accidents. Articles that did not use the word 'accident' commonly used 'mishap' or 'collision' instead. Only 2.0% (n=9) of articles explicitly stated that traffic collisions were preventable and not accidents (table 3, Ref 12).

Presentation of evidence-based solutions

Significantly more articles discussing the use of evidence-based solutions identified system-level solutions to be implemented by government or other external stakeholders (96.1%, n=249) compared with human behaviour-level solutions (28.2%, n=73, p<0.001). Table 5 depicts the presentation of evidence-based solutions (table 3, Refs 13 and 14).

Some of the articles discussed statistics related to solutions (20.1%, n=52). Where used, 75.0% (n=39) explained the meaning behind the statistic by showing

Table 3 Illustrative quotes for use of key elements

Key element	Ref	Quotation
Linking to the wider context	1	"In 2010, the Supreme Court had passed an order saying that provision of helmet along with sale of two-wheelers is mandatory. This judgment has not been put into reality and it has not been enforced across India."
	2	"Road accidents in India costs the country around 2.4 percent of its GDP."
	3	"Road traffic injuries are a growing public health issue, affecting vulnerable groups of road users, including the poor and road traffic injuries place a huge strain on health care services in terms of financial resources, bed occupancy, and demand of health services."
Explanations behind RTCs	4	"Poor lighting on the road led to 56% of accidents last year while 39% were caused by potholes." "The minister said road accidents occur mainly due to drunken driving, faulty road engineering, driving while talking over phone and over-speeding."
	5	"The road accident fatality rate is higher in Odisha as compared to all-India. In every 100 accidents, about 46 persons are killed in the State, whereas the national average is 29 (no explanation given for the larger burden)."
Avoiding the use of technical language	6	"Outdoor equipment like emergency call boxes, CCTVs, PTZ cameras, ANPR-based speed informant system and automatic counter-cum-classifier."
Emphasising RTCs as a priority	7	"The deadly Indian roads claimed 17 lives every hour in 2017, when acts of terrorism claimed less than 300 lives (less than one a day) in the entire year."
	8	"As a first step, injuries need to be recognised as a public health priority, and the Government of India must take the lead."
Finding the human story	9	"Rohit had been taking coaching classes in Dehradun for bank exams, Rishabh was pursuing a polytechnic course from a private college, and Aditi was a student of Doon University."
	10	"An accident leading to the death of a child causes great shock and agony to the parents and family of the deceased. The greatest agony for a parent is to lose their child during their lifetime."
	11	"Unlike the injuries to other body parts, the burden of head injuries for survivors and their families is very high."
Not terming RTCs as accidents	12	"But road injuries and deaths are not accidents; they are preventable, and they are unacceptable."
Presentation of evidence-based solutions	13	"The traffic police should make sure that the public follow road rules such as lane driving, use indicators and adhere to speed limits, especially while driving under foggy conditions."
	14	"Two-wheeler riders should ensure that they wear ISI certified helmets."
	15	"Riding without helmets was high in 2016, with 4.24 lakh challans [fines] being issued, but it dipped to 1.45 lakh(145,000)in 2017. Consistent drives and relentless challaning [fines] have led to a dip in bikers riding without helmets."
Stakeholder perspectives included	16	"Police data shows that there was also a 22% drop road fatalities in 2018 compared to the previous year. "In order to reduce accidents, particularly fatal accidents, every stakeholder has a role to play. We have tried our best in terms of education, awareness, prosecution and utilised all channels of communication to spread this message…," said director general police Muktesh Chander."
Discussion of vulnerable groups	17	"Half of those who die on the world's roads are vulnerable road users – pedestrians, cyclists and motorcyclists."

ANPR, automatic number plate recoginition; CCTV, closed circuit television; RTCs, road traffic collisions.

how the solution was effective against RTCs (table 3, Ref 15).

Stakeholder perspectives included

A balanced multistakeholder perspective was missing in the media reporting. Police officials were the most quoted stakeholders (n=157, 34.2%). Only 6.7% (n=31) articles quoted civil society organisations and individuals, 6.5% (n=30) articles presented views of researchers and urban planners, and only 3.7% (n=17) articles quoted medical professionals (table 3, Ref 16).

DISCUSSION

Our analysis of RTC reporting in Indian media in English revealed that journalists have not fully adapted to best practice recommendations, as per WHO's *Reporting on Road Safety* guide.

Table 4 Causes of road traffic collisions identified in articles

Cause identified	Percentage of articles (N=205)
System-level causes	
Poor road maintenance and presence of potholes	33.3% (n=45)
Lack of enforcement of traffic rules	28.8% (n=39)
Poor road design	26.7% (n=36)
Increasing number of vehicles	17.0% (n=23)
Unsafe vehicles	16.3% (n=22)
Poor medical response	6.7% (n=9)
Human behaviour-level causes	
Speeding over road limits	44.5% (n=66)
Rash or dangerous driving	34.0% (n=50)
Not wearing seat belts or helmets	29.9% (n=44)
Alcohol consumption	23.8% (n=35)
Use of phone	14.3% (n=21)

The WHO-recommended story angles were used less frequently than SA-8 articles covering individual road traffic events. Most commonly, these articles provided a short description of a single road traffic event with little discussion on causes and prevention. Indian journalists remain unaware or uninterested in expanding on issues relating to RTCs such as systemic causes and downstream effects on the economy and health. The use of the SA-8 story angle can be enhanced to include discussion on the burden of RTCs and evidence-based solutions, using the individual collision as a starting story to attract the attention of readers, which may be more impactful for readers.[19]

Table 5 Solutions identified in articles

Solution identified	Percentage of articles (n=259)
System-level solutions	
Improved law enforcement	40.9% (n=106)
Awareness programmes	39.0% (n=101)
Improved road design and maintenance	10.4% (n=27)
Improved emergency response and care	10.0% (n=26)
Improvement of vehicles in use	10.0% (n=26)
Requirement for technology-based solutions	8.9% (n=23)
Multistakeholder engagement and interdepartmental coordination	8.1% (n=21)
Changes in legislation	5.0% (n=13)
Increased signage	3.1% (n=8)
Set up of minimum vehicle safety features	2.3% (n=6)
Human behaviour-level solutions	
Wearing of helmets	15.1% (n=39)
Wearing of seat belts	6.6% (n=17)
Parents preventing underage driving	3.5% (n=9)

A consequence of focusing on the specific collisions rather than structural causes behind RTCs may be that readers blame driver behaviour rather than the environment.[20] This may reduce the onus on policy makers to employ systematic solutions to RTCs. However, the majority of SA-8 articles were written by *The Times of India*, suggesting that training *The Times of India* journalists may influence overall coverage of RTCs.

Articles rarely linked RTCs to the wider context, such as to existing laws or economic and social impacts. These downstream effects of RTCs are of particular interest to policy makers, especially as RTCs have a considerable effect on the Indian economy at 3%–4% of GDP.[21–23] Drawing attention to these effects is essential to influence the development and implementation of more effective policies.

From a public health perspective, the complete lack of coverage on the impact of RTCs on health systems and disability is concerning. Most articles discussed deaths rather than injuries. This may be reflective of a trend in Indian data collection systems where injuries from crashes are under-reported compared with deaths.[24] By ignoring injuries, the real impacts of RTCs on health and disability remain hidden from both policy makers and the public. Almost 10% of all disabilities in India result from RTCs, affecting individuals, families and the economy.[23]

Catastrophic health expenditure contributes significantly to growing inequalities and poverty levels in India.[25 26] The out-of-pocket expenditure on medical care caused by RTCs has been estimated to be twice that of hospitalisation due to other medical reasons. Added to these are associated non-medical costs and wage losses.[27] Media articles do not discuss the financial burden on families and the impoverishing effects road traffic injuries can have. They also miss the opportunity to illustrate the role of strengthening public health systems to reduce out-of-pocket expenditure and resultant financial burden on families.

Relatively low coverage was found in vulnerable groups, including two-wheelers and pedestrians.[28] These groups require specific interventions including laws and enforcement pertaining to helmet use, construction of pedestrian-friendly infrastructure and improving road design for different vehicle types.[13 29] Identification and focus on vulnerable groups' challenges may increase the salience of these solutions and guide priority setting.[30] Also, some key vulnerable groups were rarely discussed, such as the elderly and poor. From an equity perspective, these groups have lower access to motorised and protected vehicles and so are captive users of poorly designed pedestrian infrastructure, and disproportionately affected.[31 32]

Although low rates of technical language use were found, most articles still referred to RTCs as 'accidents'. This may perpetuate the idea that RTCs are not preventable.[33] There is also a need for greater explicitness in showcasing RTCs as a priority, especially through comparisons with other issues to show the scale of the problem. Again, these changes in the framing of RTCs as preventable may increase attention of decision makers and the general public on the issue.

In articles that purely discussed solutions to RTCs, awareness-raising and urging individuals to change behaviour were the most common. However, these are not the most effective solutions. Research has consistently shown that awareness and education campaigns only have at best small effects on rates of RTCs without appropriate legislation and the enforcement of rules such as speed limits.[34 35] In addition, there was comparatively limited discourse on the need for appropriate post-collision transport and healthcare, but improving these responses may reduce the mortality burden of RTCs by up to 30%.[31 36] Evidence-based solutions to RTCs can be made more salient by dedicating more articles to discussing these.

Overall, the presentation of complex statistics without describing the meaning was highly prevalent. This lack of clarity may reduce comprehension or make them lose interest. Many articles also included both explained and unexplained statistics, showing that there was inconsistency in how statistics were presented to readers. Training that teaches journalists how to present and discuss statistics simply and with meaning are required.

The voices of police personnel dominate in the articles. Perspective of medical professionals, urban planners, researchers, vulnerable and affected groups were largely missing, preventing a holistic understanding of causes and solutions to road traffic injuries.[37] Lack of perspectives from victims and vulnerable groups may shift the focus away from personal impacts that the general public may relate to.[38] Articles failed to capture and prioritise the role of multiple actors and the need for multisectoral action to reduce RTCs and related injuries.[39]

Lack of focus on RTC reporting by a wide range of publications/newspapers remains a cause for concern in the prioritisation of RTC as a national issue. The high proportion of reporting from one publication or newspaper may stifle a range of perspectives and give them power to shape the conversation on RTCs. Although *The Times of India* has the largest readership of any English daily,[40] to ensure a wider reach of RTC news to a range of audiences, others would need to be engaged and trained on covering the issue.

Implications for practice

The findings reveal some improvements to the WHO guidelines. First, Indian journalists writing in English are still largely using the SA-8 story angle, which is not a recommended story angle but is included as a 'story idea' in the Annex to the guide. While the Annex details how this type of story angle can be optimised for the inclusion of key elements such as human stories and general RTC statistics, the presentation of the Annex without a description on the website and its lack of citing in the main guide may limit accessibility and de-emphasise its importance and usefulness. The Annex also provides more detailed guidance on the range of stakeholders who should be engaged in reporting stories, and guiding journalists to this document may improve coverage of a range of perspectives. In addition, a collated summary of possible stakeholders may be provided in the main guide as a go-to resource.

As there has been no previous empirical analysis of the implementation and effectiveness of the release of the guideline, it is difficult to assess what factors prevented greater uptake in Indian English-language media. The WHO conducted fellowship programmes with journalists in India to train them on the guide. However, the number of journalists who participated are a small percentage of the overall number of journalists writing on RTCs, and so coverage may have not changed at scale.

Simply releasing a guide may not be effective to reach the majority of journalists and encourage change in reporting behaviour. To inspire better uptake of the guide in Indian English-language journalism, publications and newspapers should be asked to train one or two specialists in RTC coverage based on the WHO guide. This may improve standardisation and quality of reporting. In addition, the WHO and other interested stakeholders may seek to recognise journalists who cover RTCs appropriately, such as through well-publicised awards and rewards. A copy of the guide and access to free workshops for all journalists can also be provided, coupled with free training sessions open to a larger number of attendees. A major barrier to appropriate reporting on complex subjects is the lack of time journalists have to conduct research and write detailed pieces,[41] and so workplace-level changes that allow focus on nuanced writing are also needed.

Limitations

As only English-language articles were included, this may not be representative of overall trends in Indian journalism on RTCs. However, English is the official medium of governmental communication and dominantly used for informing decision makers, so the findings would be representative of the information they receive.[42] Readership of Hindi print media is about six times that of English media readership. Additionally, only online articles were included, but print media in India remains a large source of news.[43] However, while data on online readership are unavailable, it is likely that a greater proportion of online media is in the English language given that English speakers tend to come from higher-income backgrounds with greater access to smartphones and computers. There are also over 22 official languages in India each with millions of speakers, and analysing a representative sample for all these languages would require a multilingual team and is beyond the scope of the present work. The analysis was restricted to the seven proposed story angles in the WHO guideline, additional 16 story ideas from the annex were not analysed.

Future research may seek to specifically identify reporting outcomes of participants in training and fellowship programmes conducted by the WHO as part of in-country dissemination and implementation of the guidelines. The guideline may be found to be more successful in changing RTC reporting norms in conjunction with training and mentoring.

CONCLUSION

While Indian media in English shows some uptake of RTC reporting best practices as based on the WHO *Reporting on Road Safety Guidelines*, there are gaps that need to be addressed to improve media's influence over decision makers and individuals' perceptions, attitudes and actions. These include incorporating more information on RTC causes and solutions when describing individual collisions and using human stories to make coverage more relatable. In addition, greater focus on evidence-based solutions and impacts on public health systems are required. Lastly, injuries and disabilities from RTCs need attention. The guideline may also benefit from providing specific direction on which stakeholders to interview in articles to provide a range of perspectives and experiences with RTCs.

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