What maintains parental support for vaccination when challenged by anti-vaccination messages? A qualitative study

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Abstract

This study sought to explore how parents respond to competing media messages about vaccine safety. Six focus groups with mothers of infants were shown television vignettes of typical pro- and anti-vaccination claims. Thematic analysis of transcripts was undertaken. Mothers expressed surprise and concern about alleged vaccine risks but quickly reinstated their support for vaccination by deference to authority figures; type-casting immunisation opponents; and notions of anticipatory regret, good parenting and social responsibility. We conclude that personal experiences, value systems and level of trust in health professionals are fundamental to parental decision making about vaccination. Vaccination advocacy should increase the focus on matters of process such as maintaining trust and public confidence, particularly in health professionals. Stories about people affected by vaccine-preventable diseases need to re-enter the public discourse.

Keywords: Immunisation; Focus groups; Mass media; Measles-mumps-rubella (MMR) vaccine

1. Introduction

Worldwide, higher vaccination rates and declining disease incidence are providing a new climate for public debate about vaccine safety. Increased consumerism, an increased willingness to question medical intervention and a broadening interest in alternative and complementary health practices [1] are potentially changing the way health information is accepted and used. This, coupled with an apparent rise of the anti-vaccination movement, challenges public health professionals to rethink the way we use the media to promote childhood vaccination.

Promotion of vaccination traditionally employs rational logic (i.e., the benefits of vaccination outweigh the potential risks) and any accompanying rhetoric typically resorts to using militaristic metaphors which are commonplace throughout medicine (“the fight against AIDS” “the war against cancer”) [2]. Previous research has examined anti- and pro-vaccination discourse in the newsprint media, uncovering the striking sophistication of the “anti” vaccination case [3–5]. Anti vaccination arguments appeal on a broad level by alluding to deep anxieties and social issues that concern many 21st century citizens, such as cover-ups by medical professionals (who protect each other, or close rank when confronted); faceless bureaucrats regulating parenting and finally, a profit-driven pharmaceutical industry. Anti-vaccination lobbyists align themselves with broad, socially acceptable structures, framing non-vaccination as an informed choice made by parents who are dissatisfied with official assurances, venerate freedom of choice and are suspicious of government intervention [5].

Few studies have examined how parents interpret anti-vaccination claims and negotiate competing vaccination mes-
sages [6]. In this study, we sought to investigate how parents respond to the messages about vaccination typically broadcast on television by pro and anti vaccination proponents. Our purpose is to see if new ways of ‘marketing’ vaccination might be indicated in our rapidly changing social climate.

Focus groups are commonly used in studies of audience reception to media messages and in formative research for campaign planning [7,8]. Focus groups are best thought of as group conversations. They are particularly useful when researchers wish to understand social communication processes – the ways in which people talk about, frame and reframe issues to each other to communicate and build ideas.

2. Methods

2.1. Recruitment

This study aimed to recruit at least six groups of six mothers – a number considered sufficient to elicit a “saturated” amount of information [9]. One researcher (JL) approached mothers in waiting rooms of well child clinics in four demographically varied but predominantly middle-class areas across metropolitan Sydney, Australia. Areas included one high income suburban, three middle income suburban, one middle income inner urban and one low income suburban area. Middle class mothers are more likely to question immunisation and can have a disproportionate influence on others in opinion formation [10]. Mothers were asked to participate in a study of how parents are affected by different arguments about immunisation.

Exclusion criteria included women unable to speak English (which would preclude involvement in focus group discussions). We also excluded those clearly opposed to immunisation for two reasons: first, divergent views would create unhelpful group conflict and second, the study was asking how parents are swayed in their support of vaccination by media rhetoric. To identify those ineligible, each mother was given a short screening survey about their attitudes to immunisation and whether they had ever had any concerns about immunisation. Those eligible were invited to attend a focus group. Each participant received $20 to cover travel costs. Child care was available on-site.

2.2. Data collection

Each group was moderated by the primary researcher (JL). Before groups commenced, participants completed a questionnaire to obtain demographic information, children’s age and immunisation status. A list of question prompts were used to initiate open discussion about immunisation. This included asking participants to mention spontaneous thoughts about childhood immunisation and asking what reassures and prompts concerns about immunisation. Then, all groups were shown two video prompts. Video 1 constituted typical examples of negative media coverage about vaccination. It was chosen because it exemplified anti-vaccination mass media rhetoric identified in previous research [5]. The video was a 7 min excerpt from a documentary with allegedly vaccine damaged children, parents discussing their opposition to vaccination and doctors questioning the practice and its safety. It alluded to possible cover-up of information about vaccine risk. It contained accounts of parents whose children suffered disability or death after vaccination [11].

Video 2 contained typically positive coverage. The 5 min excerpt from a nightly current affairs programme included a doctor speaking about the dangers of non-vaccination, footage of children with measles and pertussis, a crying mother, and a reporter speaking about Australia’s low vaccination rates. It was chosen primarily to support reassurances about vaccination.

Early focus groups indicated that mothers placed great importance on the source of information. Therefore, two of the final groups viewed a 5 min excerpt from a third video (Video 3) which is circulated by Australia’s anti-vaccination lobby and shows, among others, five medical doctors presenting their arguments against vaccination. Each group was asked to discuss their reaction to each video prompt.

A day or two after each group met, each woman was telephoned by the primary researcher for further discussion and debriefing. These interviews were not tape recorded but extensive notes were taken.

2.3. Coding and analysis

All focus group discussions were tape recorded and transcribed. Transcriptions were checked to correct for inaccuracies. Transcriptions were coded with the assistance of the qualitative analysis software NUD*IST 4 which allows for marking and subsequent retrieval of text according to a particular theme. Thematic analysis was used. Coding attempted to identify emerging themes which were then organised into a coherent hierarchical scheme. A priori interests were also noted, including evidence of anticipatory regret, and omission bias [12]. We also approached analysis with theories of media reception and persuasion in mind [13]. Without having seen the existing codes, the co-authors read two transcripts and discussed emerging themes with the first author. The existing coding structure was modified. After initial coding, instances which contradicted emerging tendencies were purposively sought [14]. Once indicative quotes were identified, the surrounding discussions from which they came were re-read in an attempt to ensure statements were not taken out of context. The group dynamics in which the statements occurred were also considered [15].

2.4. Ethical considerations

The University of Sydney Human Ethics Committee and ethics committees for the Central, Northern and Western Syd-
ney Area Health Services approved the project. We undertook a number of measures to avoid the video prompts introducing new arguments against vaccination that might undermine participant’s initial confidence in immunisation. This included showing another video to each group at the end of each session which was primarily supportive of vaccination (Video 2); circulating a booklet, Understanding Childhood Immunisation; and giving the telephone number of an immunisation expert (MB) who could address any new concerns parents might have. Also, a day or two after each group met, each mother was telephoned for further discussion and debriefing.

3. Results

3.1. Participants

A total of 37 mothers attended six focus groups of between four and eight participants. Their mean age was 32 years with the majority (78%) born in Australia and the remainder from the UK, New Zealand and India. Thirty-nine per cent had two or more children while the remainder had recently given birth to their first child. Most participants (61%) had tertiary education. All claimed their children to be fully vaccinated for their age. The following analysis includes indicative quotes for each theme (Box 1).

3.2. Strong support for vaccination

Prior to seeing the videos, initial discussion about immunisation reflected the women’s strong validation of the practice. Most mothers spoke of vaccine preventable diseases as threatening and frightening. They expressed their fear particularly in terms of new diseases, a sense that there are more germs nowadays, along with a pervading sense that germs from Box 1: Indicative quotes from focus groups

**Strong support for vaccination – fear of disease**

...things like sort of migrants and different nationalities and people from other countries coming in that [mean] your child is at risk of catching something if you don’t have them immunised. (Group 2, suburban middle income area)

**Shock from anti vaccination messages**

I’m a real sucker for those sort of things. I was starting to cry when I was looking at... that is an unfortunate thing of public health measures that some individuals - God forbid that it's my individual – will suffer (Group 5, inner-urban middle income area).

...Why do we not know about these things? Like immunisation, immunisation, immunisation, but very little on the side effects and you know, “Your child may be that one who gets brain damage” My little girl is 3 and no-one’s ever said to me, “If you immunise her she might be the one who gets brain damage” (Group 6, low income area).

**Mitigating anti-vaccination impact**

I’ve known thousands of people who’ve had this (vaccine), and I’ve never ever heard of anyone having brain damage. But I have heard of others having, you know, whooping cough and whatever else (Group 6, low income area).

I mean there’s ALWAYS a chance of something like that. Even if it’s walking out on the road and getting hit by a car or getting the amniocentesis when I was pregnant, whatever. There’s always a chance that... and if it does, it happens. It was fated to be and you live with the consequences (Group 1, suburban middle income area).

**Regret from omission and commission**

...the GUILT that I would feel, because I had not immunised my old child to prevent her from passing that disease onto my son who ultimately died of that disease. The guilt that I would feel! (Group 5, inner-urban middle income area)

It wasn’t the fact that he got hit by a bus, or you know, a strike of lightning, “I took him to the doctor and I stood there while he had the injection” (Group 4, suburban middle income area).

**Core influences: doctors, social networks and seeing the diseases**

...if I had just seen that and not read anything, or had no outside influences, I would probably say, ‘No I don’t want her vaccinated’, but I’ve had the other influences and I’d decided the other way (Group 2, suburban middle income area).

“I’ve got a fair amount of faith in my doctor and I tend to trust what she says and trust her opinion, so I think that I would believe what she would say before I’d believe anything I saw on TV (Group 4, suburban middle income area).

I think it’s actually REALLY hard to know how to balance it... You get that much information, in the end you have to decide where your confidence lies. Who can I really trust? That’s hard (Group 1, suburban middle income area).

Yes, well if it is a group that are anti-immunisation, well, they would say that wouldn’t they... But if you feel there's some
professional independence, you are more likely to listen to it (Group 5, inner-urban middle income area).

Until you actually go to another country and see the consequences, and see the dreadful, dreadful, diseases... (Group 3 suburban high income area).

eign and exotic lands posed an unknown threat. Diseases such as tuberculosis, influenza, Ebola virus and AIDS were often mentioned in the context of wanting to find ways to protect children.

Repeating a popular discourse in the print media, some gave tales from the war – romanticizing the generations who could appreciate the value of vaccines [4]. Also, vaccination was venerated as a practice through which women could manifest nurturing and notions of being a good mother “like a lioness with a cub”, as one mother put it. Vaccination was often discussed as an unremarkable, normal part of life, reinforced in many different contexts including the health care environment and the family. Many women said “it’s just something you do” and spoke of vaccinating their own children almost to maintain a family tradition. Those who spoke of vaccination as normal and automatic expressed surprise that some people were opposed to the practice.

In the context of vaccines being seen as important, participants spoke of injection pain, and minor reactions as trivial matters.

At a time when the acellular pertussis vaccine had recently succeeded whole cell vaccine, new vaccines featured prominently in the discussions. Participants were keen to determine whether their child was receiving the latest and safest vaccine and many voiced reassurance in having a safer vaccine available, almost as a panacea for any emerging concern about vaccine safety. Despite a resounding support for vaccination, some women expressed reservations. A prominent concern was the effect on the vulnerable baby’s immunity, one describing it as creating “a little war in their blood system”. Participants often alluded to the vulnerability of infants.

However, in the spirit of a resoundingly positive mood about vaccination, some groups eagerly labeled those opposed to vaccination as “burn your bra types”, “hysterical”, “new agers”, “alternative lifestylers”, “naturals”, or as people who “go against it for rebellion’s sake” or even as people associated with “ethnic” groups.

3.3. Shock from anti vaccination messages

The video skepticism of vaccinations was shown (Video 1 – see Methods). It rapidly stripped away the initial bravado established in most of the groups. In summary, most mothers were initially disturbed and shocked by the video, particularly by the visual impact of disabled children. Many showed a complete acceptance of the programme’s latent meaning. They spoke of being surprised that vaccination carried such risks and anger at not having been warned about them previously. Those who expressed a stronger response appeared shocked with downcast facial expressions and even crying.

A few women became angry soon after seeing the segment. Many however, expressed immediate resistance to the messages, particularly in groups where immunising was established as a socially desirable practice. Also, many groups soon voiced their general scepticism of media sensationalism and the propensity to propagate negative stories.

3.4. Mitigating anti-vaccination impact

Mothers used a number of ways to put what they perceived as “anti-vaccination” messages into context. This often included a simple risk-benefit equation, sometimes drawing on analogies to make their point. Beyond employing rational logic, trusting the person who conveyed the information was important along with personal experiences with vaccine-preventable diseases which they employed to support their rejection of the anti-vaccine information. The anticipation of regret at their unvaccinated child acquiring a vaccine-preventable disease arose repeatedly. The mothers spoke of “never being able to forgive themselves” and their “guilt” if their child was unvaccinated and got the disease. Many talked of the reverse situation where, in taking their child to be immunised, their actions meant that the child was damaged.

3.5. Core influences: doctors, social networks and seeing the diseases

Mothers elucidated the things that made vaccination worth the apparent risk introduced from video 1. These included trust in doctors, personal experiences with diseases, and the reinforcement of vaccination through social networks.

The concept of trust arose repeatedly, particularly in relation to doctors. The family doctor appeared to be an integral point of reference in vaccination decisions and the negotiation of risk messages. Participants valued doctors who took the time to explain procedures and discuss risks. Some conveyed their own very positive experiences with their doctors, and others voiced disapproval of doctors who seemed unwilling to discuss vaccination, feeling they might dislike the challenge to his or her authority. Those more sceptical of medical knowledge alluded to difficulties with trust.

However, the generally strong trust of doctors and acceptance of medical knowledge meant that hearing anti-vaccination arguments from doctors in video 3 was more disturbing for participants. There was also discussion about government where some expressed skepticism that the “government is only telling you what they WANT you to know”, while others found it hard to see why the government would
pay large amounts for immunisation programmes without good reason. Indeed, most discussion evinced a strong degree of trust in vaccination polices and the health authorities who make them.

Many participants spoke of personal experiences with vaccine preventable diseases as important in their ultimate resolve. They knew, or were, health professionals who gave accounts of children with, say, pertussis. Stories from non-health professionals about the horror of vaccine preventable disease included a false positive Hepatitis B diagnosis, travel in Africa and a pertussis scare in the maternity unit. During these narratives, group members became uncharacteristically quiet with facial expressions and exclamations reflecting the sacredness with which they held the stories. For those without such experiences to draw upon, the media provided vicarious experiences. Every group recalled an advertisement featuring a child with pertussis shown during a national pertussis vaccination campaign as “shocking” and “devastating”.

Many mothers’ own attempts to reassure themselves about vaccination also involved the influence of parents, partner, friends and other social networks. Their own mothers reinforced the importance of vaccination along with siblings who were health professionals. During the post-group interviews, some women reported they had gone home and spoken with their partner, sister, and/or mother about the issue. It appeared that these conversations reassured participants disturbed by the new information about vaccines encountered via the videos and were an important way to return to formerly established views. During these interviews, the mothers who had appeared unsettled during the focus groups appeared much more resolved about the issue and in favour of vaccination.

Every group raised the benefit that vaccination brings to the wider community. Participants frequently described the idea that immunisation was a social responsibility. This was either conveyed as one’s own contribution to reducing risk in the broader community or as an expectation that other parents would do the same. They spoke of mothers who did not have their children immunised as being “very irresponsible” and requiring “common courtesy” to avoid passing on disease. This also translated into a concern among a few mothers that the television prompts might dissuade some mothers from vaccinating.

At the end of each group session, participants watched an excerpt from a popular current affairs television programme which was primarily supportive of vaccination (Video 2). The content was accepted with relief by most participants, despite many having earlier expressed their scepticism about “tabloid” television. Some expressed relief at having it reinforce their predispositions. It seemed that when their formerly unquestioned beliefs about the overall value of vaccination were challenged, participants were relieved to grasp at something which reassured them. After viewing video 2, participants spoke of being reassured by a doctor who seemed to them, confident, “because when someone believes in something, you believe in it too”. Many seemed eager for a voice that legitimised their own initial support of vaccination.

4. Discussion

This study aimed to explore how mothers of infants respond to competing media messages about vaccine safety. We found the television vignettes useful in triggering discussions and mirroring discussions that might occur in other group environments such as playgroups and new mothers groups.

When their existing beliefs about vaccine safety were challenged by our videos, mothers’ defenses typically ran the following course. First, they were surprised by their lack of exposure to anti vaccination material. Their disbelief was then supported by recourse to authority (their own doctors and family and friends in their social network). They then resorted to type-casting or stereotyping anti vaccinators (e.g., “bra burners”). This was followed by asserting statements about the social responsibility and control over disease that was seen to characterise their own good parenting practices.

Those who had previously only seen vaccination as beneficial expressed surprise, fear and anger at not feeling fully informed of risks. This led many to initially question their own unthinking adoption of the practice. The core claim by anti-vaccinationists that parents should be fully informed in decisions about their child’s health clearly had some resonance for parents who do not want to feel they are careless in choices about their child’s health. If parents have already been informed by their providers about risks, emotive press stories about vaccine-damaged children are likely to have less sway because parents have a supportive reference point with which to interpret them. This concept is supported by the process of “psychological inoculation” advanced by McGuire [16].

However, parents asserted their belief in vaccination because it represented a point at which they could exercise control over communicable diseases seen as frightening and hard to control. Indeed, vaccination appeared to symbolise a blanket of protection, as if the newer exotic diseases like AIDS and Ebola which some mothers spoke of, were somehow being kept at bay by immunising their children against measles or pertussis. Trust in health professionals, particularly doctors, was fundamental for the mothers in this study. In deciding whether to believe a message, they first took note of whether the informant was medically trained. From their vaccine providers, mothers tended to want a person who was abreast of current recommendations and willing to discuss vaccine risk and benefit. The notion of being an informed decision maker appeared important to many women. They also wanted to be entrusted themselves with information from health professionals about vaccine risk – an exchange of trust where mothers wanted to be regarded as competent decision makers.

Immunisation is a social practice [17] and in this study, vaccination was a vehicle for expressing wider social norms
and values. Some mothers revealed some prejudices in relation to multiculturalism, their beliefs about what constituted good parenting, and the deviant behaviour of rejecting vaccination. Interviewing in the social context revealed how groups maintain their own boundaries and delineate what characterises other in relation to self or us. Here, vaccination was socially reinforced through scorn for vaccine defaulters, type-casting of parents who do not vaccinate their children and veneration of the mother-as-protector role through adherence. Interestingly, some women participating in the study expressed concern within the groups and in the follow-up interviews, that exposure to the videos might have tempted others in the group to reject vaccination. This revealed that like health professionals, mothers can also share concern about the potential effect of anti-vaccine discourse on parents.

In this study, a parent’s decision not to vaccinate a child was recognised as a decision which had implications for others [17]. Insights into how community benefit is understood and might be framed are important when, as vaccination’s success leads to disease control, community benefit rises in importance over individual benefit [18]. The ways that study participants acknowledged community benefit suggest that presenting vaccination as a social good might be a worthwhile and possibly overlooked strategy.

Parents in this study were impressed by new vaccines and their potential. Generally, the mothers did not recoil from vaccination after hearing of the ills vaccines were alleged to cause. Instead, their response was a demand for the best and latest model vaccine. The feeling of doing something about the perceived risk was better than doing nothing. Here the experience with the MMR vaccine controversy in the UK may offer parallel insights. Andrew Wakefield, during a press conference following the publication of his Lancet paper alleging the MMR vaccine was linked to autism [19], mentioned the possibility of separate antigens being safer than the current combined vaccine, although it lacked an evidence base [20]. What appeared initially as a peripheral issue then became the focal point for news reports and parents unhappy at not being able to access separate vaccines.

Wakefield’s suggestion that separate antigens promised protection from autism while still giving parents the sense they were also protecting their children from measles, mumps and rubella, provided them with a perception of the best of both worlds. Parents leapt upon the idea of a regime of vaccination perceived as safer and of a higher order technology, despite a lack of evidence for this.

Hence, there may be a psychology behind the demand for separate antigens that might be being unrecognised and untapped at present. In an environment increasingly seen as high-threat by parents, a new respect for safety (however inconvenient, given the number of vaccinations) may be emerging [21].

Many aspects of this study’s findings have been reproduced in other research examining how parents respond to media messages about the measles-mumps-rubella vaccination and its unproved link to autism and bowel disease [22]. Although vaccinating a child remains a technically rational practice, this study revealed decision processes that were far from rational in this scientific sense. Decisions appropriated wider issues giving them Plough and Krimsky’s cultural rationality – a concept which has been used to describe the interplay between cognitive, emotional, social, cultural and spiritual factors in decision making [23,24]. While technical rationality “rests on explicitly defined sets of principles and scientific norms”, cultural rationality is characterised by trust in political culture and democratic processes and appeal to folk wisdom, peer groups, and traditions [23]. Using technical rationality, vaccination experts base their assessments on technical knowledge and results from epidemiological studies but, as noted, individual parents may find their personal experience with vaccines or advice from family members much more fundamental in decision making.

In the medical literature, suggested responses to erroneous beliefs about vaccination reflect the assumption that a public reiteration of “the facts”, provision of accurate well referenced statistics, and quantifiable risks and benefits should alone reassure parents [25–27]. Indeed, facts on their own might have the opposite effect of polarising people into existing positions where those supportive of vaccination have their beliefs confirmed and those opposed become more entrenched and committed. Meszaros and colleagues presented parents opposed to the DPT vaccine with carefully prepared factual information about risks and benefits. These parents became more committed to their antipathetic position. Their response was moderated by their underlying values about death and chronic disability [28].

Mothers in this study reflected a generally positive attitude to immunisation. Our recruitment procedure was intended to screen out mothers opposed to immunisation but none were identified. This finding is supported by quantitative research suggesting strong support for vaccination in Australia where vaccine controversies have been less prominent than say, the UK [29]. The sample focused on tertiary educated women, from a largely Anglo-Celtic background, able to communicate in English who were primarily supportive of immunisation. This limits the generalisability of our study. But interestingly, qualitative research from Australia suggests those who question vaccination also tend to be from this demographic group [8]. In addition, parental attitudes are dynamic in terms of individual change over time and attitudinal shifts in new cohorts during controversies. Recruiting mothers largely supportive of immunisation allowed us to view a microcosm of how parents might change their views in larger scale debates about immunisation such as MMR. In public health terms, it is these swinging voters who are likely to be more significant in taking vaccination rates well below target levels.

Our decision to not screen out mothers who were health professionals may be seen as ‘biasing’ the groups. We argue,
however, that since these women are also mothers they legiti-
mately represent the diversity among women deciding about
immunisation, being influenced by the media and influencing
other mothers, perhaps disproportionately.

The focus group method cannot provide a systematic
account of the knowledge and perceptions of each individ-
ual since dominant members can drown out quieter ones.
However, focus groups, unlike individual interviews, allow
researchers to observe the interactive and social nature of the
topic of interest [30,31]. They can also inform research of a
more systematic nature such as surveys.

5. Recommendations

Experts often attempt to convince parents of the safety
of vaccines using facts alone. However, this strategy fails
to account for the wider values and discourses that inform
the practice. What is needed perhaps is a less a focus on the
content of information which assumes people, once given the
facts, will not be influenced by anti-immunisation rhetoric,
to a stronger focus on matters of process which aim towards
maintaining trust and public confidence, particularly in health
professionals.

Public advocates of vaccination need to account for the
underlying levels on which debates about vaccine safety oper-
ate. This might involve identifying and naming the core issues
in each new debate (e.g., choice for parents, grief over autism,
perception of unscrupulous doctors) and addressing public con-
cerns at this level while also addressing the factual details.

In this study, self reassurance revolved around a desire
among mothers to protect their children from infectious
diseases. In public debates about vaccination, vaccine-
preventable diseases too often are ignored in the scramble to
defend vaccines. While remaining transparent on the issue of vaccine safety, vaccine advocates need to frame
debates in terms of disease prevention. Stories of disease-
affected children need to re-enter the public discourse via
health professionals, people who have experienced the dis-
eases and via campaigns. In this way, debates can begin to
be reframed from the powerful discourses appropriated in
anti-vaccination rhetoric to the equally powerful discourses
underlying infectious disease prevention.

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