Table S1 Cronbrach’s alpha

|  |  |  |
| --- | --- | --- |
| **Attitudes** | Sign  | Alpha |
| In favour of MV | + | 0.6871 |
| In favour of the Italian 2017 MV law | + | 0.6218 |
| In favour of MV repeal | - | 0.6701 |
| In favour of “flexible” MV  | - | 0.7258 |
| In favour of extending MMR MV to other population groups  | + | 0.7423 |
| In favour of including more mandatory vaccines | + | 0.7555 |
| *Test scale* |  | 0.7407 |
| **Beliefs** | Sign  | Alpha |
| Importance of poliomyelitis vaccine | + | 0.8230 |
| Importance of diphtheria vaccine | + | 0.8118 |
| Importance of tetanus vaccine | + | 0.8225 |
| Importance of pertussis vaccine | + | 0.8216 |
| Importance of hepatitis B vaccine | + | 0.8351 |
| Importance of *Haemophilus influenzae* type b vaccine | + | 0.8286 |
| Importance of measles vaccine | + | 0.8198 |
| Importance of rubella vaccine | + | 0.8168 |
| Importance of mumps vaccine  | + | 0.8085 |
| Importance of varicella vaccine | + | 0.8089 |
| MV is the best strategy for ensuring optimal vaccination coverage | + | 0.8641 |
| It is difficult to implement alternative strategies to MV  | + | 0.8588 |
| It is difficult to ensure vaccination coverage in the absence of MV | + | 0.8499 |
| *Test scale* |  | 0.8407 |
| **Epidemiologic impact** |  |  |
| MV increases vaccination coverage for VPD | + | / |
| MV reduces VPD morbidity | + | / |
| *Test scale* |  | 0.7499 |
| **Social impact** |  |  |
| MV increases citizens' confidence in vaccines | + | 0.6573 |
| MV encourages hesitant parents to vaccinate their children | + | 0.6685 |
| MV strengthens anti-vaccine movements | - | 0.7457 |
| MV damages relations between the State, health institutions and citizens | - | 0.6940 |
| MV represents a failure of the Italian public health system | - | 0.7153 |
| MV repeal would create confusion among citizens  | + | 0.7828 |
| *Test scale* |  | 0.7499 |
| **Economic impact** |  |  |
| MV has significantly increased costs for vaccination services | - | / |
| Overall, MV will result in cost savings for the National Health Service | + | / |
| *Test scale* |  | 0.5393 |
| *Test scale with Spearman-Brown reliability correction (increased length = 5)* |  | 0.745 |
| **Impact on vaccination services** |  |  |
| The organizational effort for MV is unsustainable for vaccination services | - | 0.7062 |
| MV has resulted in an excessive workload for vaccination services staff | - | 0.6782 |
| MV has caused inconvenience to vaccination services users | - | 0.7101 |
| MV was sustained by increased resources devoted to vaccination services | + | 0.7884 |
| MV has diverted resources away from other vaccination-related activities | - | 0.7494 |
| *Test scale* |  | 0.7708 |

MV: mandatory vaccination

MMR: measles mumps rubella vaccine

VPD: vaccine-preventable diseases

Table S2 Beliefs of public health professionals towards mandatory vaccination

A: Importance of mandatory vaccines (total = 52);

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  | **N (%)** |  |  |
|  | **Not important** | **Weakly important** | **Moderately important** | **Very important** | **Extremely important**  |
| Poliomyelitis | 1 (1.9) | 0 | 1 (1.9) | 7 (13.5) | 43 (82.7) |
| Diphtheria | 0 | 1 (1.9) | 0 | 11 (21.2) | 40 (76.9) |
| Anti-tetanus | 1 (1.9) | 0 | 2 (3.9) | 11 (21.2) | 38 (73.0) |
| Pertussis | 0 | 0 | 2 (3.9) | 13 (25.0) | 37 (71.1) |
| Hepatitis B | 1 (1.9) | 0 | 0 | 7 (13.5) | 44 (84.6) |
| *Haemophilus influenzae* b | 0 | 1 (1.9) | 3 (5.8) | 14 (26.9) | 34 (65.4) |
| Measles | 0 | 0 | 2 (3.9) | 10 (19.2) | 40 (76.9) |
| Rubella | 0 | 1 (1.9) | 1 (1.9) | 12 (23.1) | 38 (73.1) |
| Mumps | 1 (1.9) | 0 | 6 (11.6) | 13 (25.0) | 32 (61.5) |
| Varicella | 0 | 2 (3.9) | 8 (15.3) | 17 (32.7) | 25 (48.1) |

B: Alternative strategies to mandatory vaccination (total = 52).

|  |  |
| --- | --- |
|  | **N (%)** |
| **The best strategies for ensuring optimal vaccination coverage in Italy are:\*** |  |
| Mandatory vaccination | 24 (46.1) |
| Promotion and information campaigns for the general population | 30 (57.7) |
| Information and training campaigns for healthcare professionals | 11 (21.2) |
| Organizational interventions aimed at strengthening vaccination services | 18 (34.6) |
| Implementation of the national vaccination registry | 13 (25) |
| Financial incentives for parents | 3 (5.8) |
| Financial incentives for health professionals | 1 (1.9) |
| **It is difficult to implement alternative strategies to mandatory vaccination** |  |
| Not at all | 1 (1.9) |
| Slightly | 0 |
| Moderately | 12 (23.1) |
| Very | 35 (67.3) |
| Extremely | 4 (7.7) |
| **It is difficult to ensure vaccination coverage in the absence of mandatory vaccination** |  |
| Not at all | 0 |
| Slightly | 3 (5.8) |
| Moderately | 4 (7.7) |
| Very | 27 (51.9) |
| Extremely | 18 (34.6) |
| **Main barrier to the** **implementation of alternative strategies:**  |  |
| Lack of resources | 17 (32.7) |
| Organizational issues | 25 (48.1) |
| Lack of political will | 3 (5.8) |
| Uncertain | 1 (1.9) |
| Other | 6 (11.5) |

\* Multiple answers allowed

Table S3 Perceived impact of mandatory vaccination among public health professional (total = 52)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  | **N (%)** |  |  |
|  | **Strongly disagree** | **Disagree** | **Neither agree nor disagree** | **Agree** | **Strongly agree**  |
| **Epidemiologic impact** |  |
| Mandatory vaccination increases vaccination coverage for VPD | 1 (1.9) | 0 | 1 (1.9) | 17 (32.7) | 33 (63.5) |
| Mandatory vaccination reduces VPD morbidity  | 1 (1.9) | 2 (3.9) | 4 (7.7) | 20 (38.5) | 25 (48.0) |
| **Social impact** |  |  |  |  |  |
| Mandatory vaccination increases citizens' confidence in vaccines | 4 (7.7) | 19 (36.5) | 10 (19.2) | 14 (26.9) | 5 (9.6) |
| Mandatory vaccination encourages hesitant parents to vaccinate their children | 3 (5.8) | 10 (19.2) | 8 (15.4) | 24 (46.1) | 7 (13.5) |
| Mandatory vaccination strengthens anti-vaccine movements | 0 | 12 (23.0) | 8 (15.4) | 21 (40.4) | 11 (21.2) |
| Mandatory vaccination damages relations between the State, health institutions and citizens | 8 (15.4) | 27 (51.9) | 8 (15.4) | 5 (9.6) | 4 (7.7) |
| Mandatory vaccination represents a failure of the Italian public health system | 6 (11.5) | 16 (30.8) | 5 (9.6) | 21 (40.4) | 4 (7.7) |
| Mandatory vaccination repeal would create confusion among citizens  | 2 (3.9) | 4 (7.7) | 6 (11.5) | 21 (40.4) | 19 (36.5) |
| **Economic impact** |  |  |  |  |  |
| Mandatory vaccination has significantly increased the costs for vaccination services | 7 (13.5) | 17 (32.7) | 14 (26.9) | 10 (19.2) | 4 (7.7) |
| Overall, mandatory vaccination will result in cost savings for the National Health Service | 0  | 2 (3.9) | 9 (17.3) | 21 (40.4) | 20 (38.4) |
| **Impact on vaccination services** |  |  |  |  |  |
| The organizational effort for mandatory vaccination is unsustainable for vaccination services | 3 (5.8) | 24 (46.1) | 14 (26.9) | 9 (17.3) | 2 (3.9) |
| Mandatory vaccination has resulted in an excessive workload for vaccination services staff | 1 (1.9) | 15 (28.9) | 12 (23.1) | 19 (36.5) | 5 (9.6) |
| Mandatory vaccination has caused inconvenience to vaccination services users | 1 (1.9) | 18 (34.7) | 15 (28.8) | 15 (28.8) | 3 (5.8) |
| Mandatory vaccination was sustained by increased resources devoted to vaccination services | 5 (9.6) | 16 (30.8) | 17 (32.7) | 13 (25.0) | 1 (1.9) |
| Mandatory vaccination has diverted resources away from other vaccination-related activities | 3 (5.8) | 20 (38.4) | 15 (28.8) | 12 (23.1) | 2 (3.9) |

VPD vaccine preventable diseases